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DENVER, COLORADO

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AMPRO
MODELS 755, 756

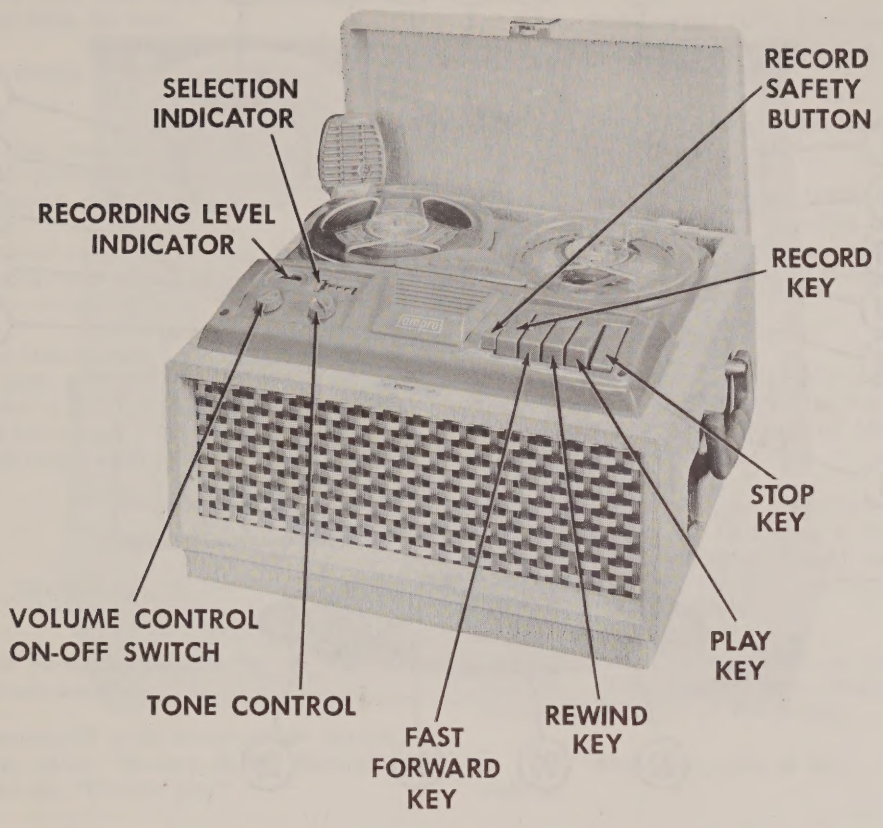

Figure 1

GENERAL INFORMATION

Ampro Models 755 and 756 Tape Recorders incorporate push button controls for the following functions: Record, Fast Forward, Rewind, Play, and Stop. Actual control is achieved by means of solenoid actuated mechanisms.

The two models are alike in basic design, the differences being that Model 755 is designed for a tape velocity of 3 3/4 I. P. S. and the amplifier is equalized for that tape characteristic, whereas Model 756 is designed for a tape velocity of 7 1/2 I. P. S. and is equalized accordingly.

Both models are designed to record and play back two tracks of material on standard recording tape, which doubles the playing time with no loss of frequency response or quality. Recordings can be made from a radio, television receiver or phonograph, in addition to those made directly from the microphone. Recordings can be played back through the self-contained speaker or an external speaker may be used through use of the "Ext. Speaker" jack.

Models 755 and 756 are designed to operate on 60 cycle, 105-120 volts, AC supply only.

CAUTION: Severe Damage Will Result If Connection Is Made To A Direct Current (DC) Line.

Manufactured by:

Ampro Corporation
2835 North Western Ave.
Chicago 18, Illinois

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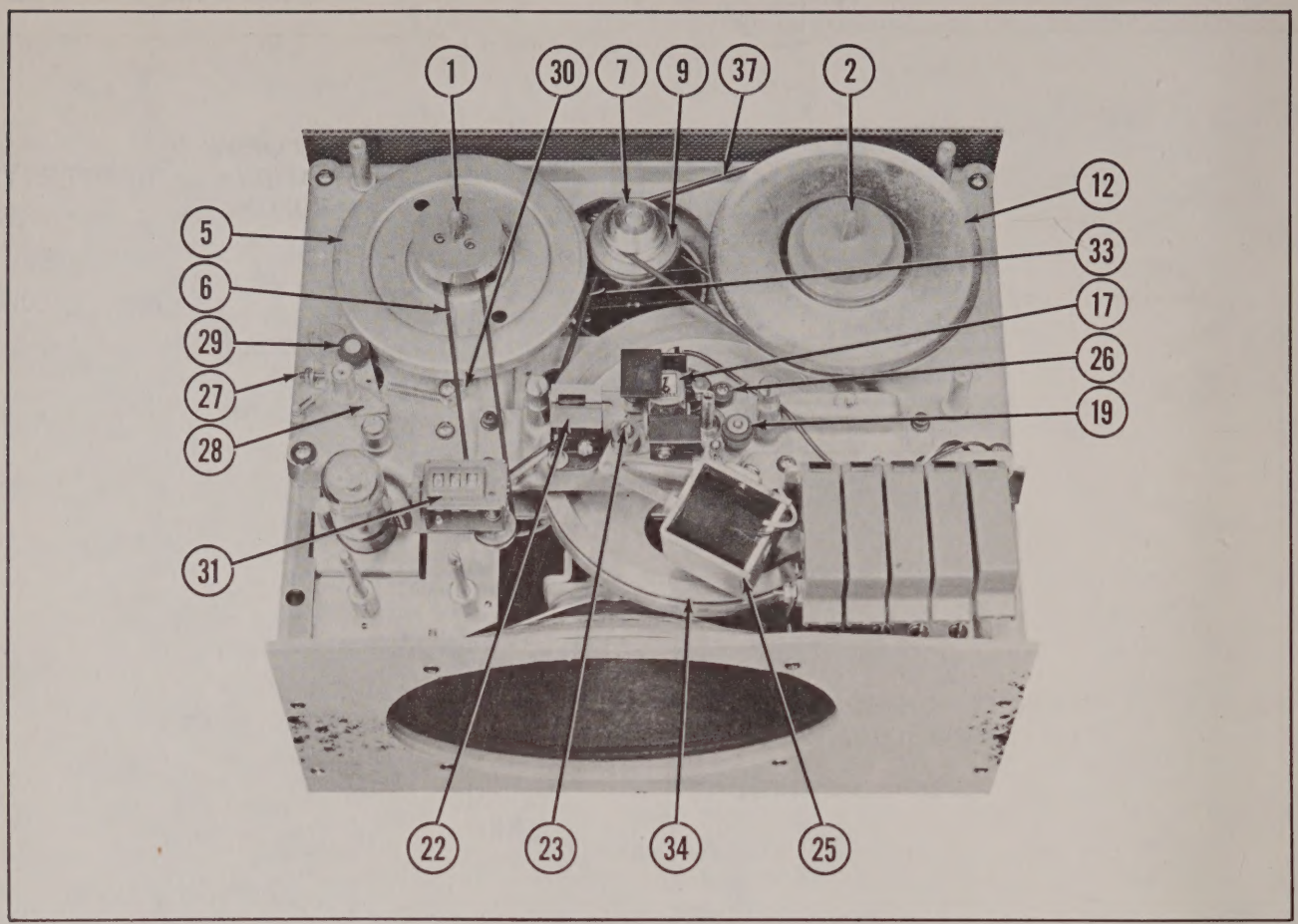

Figure 2

SPECIFICATIONS

Weight-
32 Lbs.

Size-
16 1/2 x 15 1/2 x 10 1/2 inches.

Reel Size-
Up to 7 inches.

Tracks-
Dual.

Track Selection-
Manual Turnover.

Tape Speed-
Model 755 - 3 3/4 I. P. S.
Model 756 - 7 1/2 I. P. S.

Recording Time-
Model 755 - 2 hours (1 hour each track).
Model 756 - 1 hour (1/2 hour each track).

Amplifier Tube Complement-
5879, 12AX7, 6AQ5, 6C4, 6E5.

Bias Frequency-
48KC ± 10KC.

Frequency Response-
Model 755 - 50 to 8500 cps.
Model 756 - 40 to 13000 cps.

Controls-
2 knobs, 5 piano-type keys.

CONTROL FUNCTIONS

Record Key- Tape starts instantly when this key is depressed. Key will not operate unless "Record Safety Button" is slid to left. Erase is automatic when "Record Key" is depressed, thus eliminating previous recordings on the tape.

Fast Forward Key- (Tape moves left to right.) Accelerated spindle speed quickly brings tape to desired index position for accurate editing or cueing.

Rewind Key- (Tape moves right to left.) Fast rewind integrated to selection locator. Even tension while rewinding prevents spillage of tape.

Play Key- Tape starts instantly. Provides for both visual and audio cueing.

Stop Key- Stops tape motion instantly. Stop key is interlocked with all other keys, requiring full stop of winding mechanism between functions. You must always return to "Stop" before pressing any of the other keys.

OPERATING INSTRUCTIONS

1. With the "On - Off Volume Control" in the "Off" position (extreme counterclockwise), insert the power cord plug into a convenient wall receptacle of the proper rating.

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Threading The Tape-

1. Place a reel of tape on the left hand (supply) spindle so that the reel will turn counterclockwise when tape is pulled from the reel.

2. Place an empty reel on the right hand (take-up) spindle.

NOTE: When placing reels on spindles, be sure they are firmly seated on the reel-locking fins to insure positive motion of tape.

3. Unreel about two feet of tape and guide it through the recording slot. Glossy side of tape (Type "A" wind) must face outside of reel. (Dull side in.)

4. Feed the loose end of the tape up into the empty reel on the right hand spindle. Thread the tape into one of the slots in the outer surface of the hub. Hold the loose end between the fingers and slowly rotate this reel counterclockwise until all slack is taken up between reels.

To Record-

1. Connect microphone or any other type of input.

2. Switch on recorder by turning the "On-Off Volume Control" clockwise.

3. After waiting 30 to 60 seconds for the amplifier to warm up, slide "Record Safety Button" to the left and depress the "Record Key".

4. Adjust the "Volume Control" so that the "Recording Level Indicator" almost closes on loudest sounds (peak output). At the start of the recording set the "Selection Locator" at zero.

Selection Locator-

This odometer-type indicator registers "000" to "999" and will save much guess-work when trying to locate a desired portion of a pre-recorded tape. The reading of the indicator may be noted as the recording is being made so that reference to any given part on the tape may be made very rapidly. When a recorded tape has been so logged or referenced, always "zero" the indicator before starting to play the recording.

To Play Recordings-

1. With the "Stop Key" depressed, thread the tape as outlined under the heading "Threading The Tape".

2. Depress the "Play Key" and adjust the "Volume" and "Tone" controls for most pleasing reporduction.

3. Depress the "Stop Key" when finished.

Dual Track Recording-

Models 755 and 756 are designed so that only 1/2 the tape width is recorded at a time, thereby resulting in two track recording. This two track operation is accomplished in the following manner:

1. After a reel of tape has been recorded; i.e. all the tape wound onto the right hand reel, depress the "Stop Key".

2. Remove the reels from the recorder, turning the full reel over and placing it on the left spindle.

3. Properly thread the tape and proceed with the recording.

4. After the second track has been recorded the first track of recording is ready to be played, without rewinding; by reversing the reels as described in Step #2 above.

To Edit And Splice Tape-

NOTE: Since it is impossible to edit and splice one track without affecting the other, recordings which are to be edited should be limited to one track only.

1. The tape may be edited by cutting out unwanted portions, or by joining selections into another sequence. Announcements may be inserted between selections, etc. Unused sections of tape can be spliced together for re-use.

2. Cut diagonally with an overlap so ends will line up. (Cutting tape on a diagonal will eliminate detection of splice on recording.

3. Align both ends of tape, uncoated or glossy side up.

4. Cover aligned ends with splicing tape. Press firmly, exerting pressure, to secure ends evenly and securely.

5. Trim off excess splicing tape. Cut into recording tape backing very slightly to eliminate possibility of a sticky splice.

Fast Forward And Fast Rewind-

High-speed forward or rewind can be obtained by pressing the desired key. These functions are used primarily in locating a desired portion of a recording in a few seconds.

NOTE: The "Stop Key" must always be depressed before changing functions.

To Use An External Speaker-

Any size speaker of the permanent magnet type, having a 3 to 8 ohm voice coil, may be used by connecting the alligator clips of the radio-phono cord across the voice coil terminals on the external speaker and then inserting the radio-phono cord plug into the receptacle marked "Ext. Speaker".

DESCRIPTION OF TAPE DRIVE MECHANISM

Primary Drive- The motor pulley (32) and driver unit (7 and 9) are mounted on the shaft of drive motor (50) and drives the flywheel and capstan assembly (34) by means of drive belt (33). The motor is controlled by the switch on the volume control.

Takeup Drive- The takeup belt (37) drives the takeup pulley (12) which in turn drives takeup spindle (2)

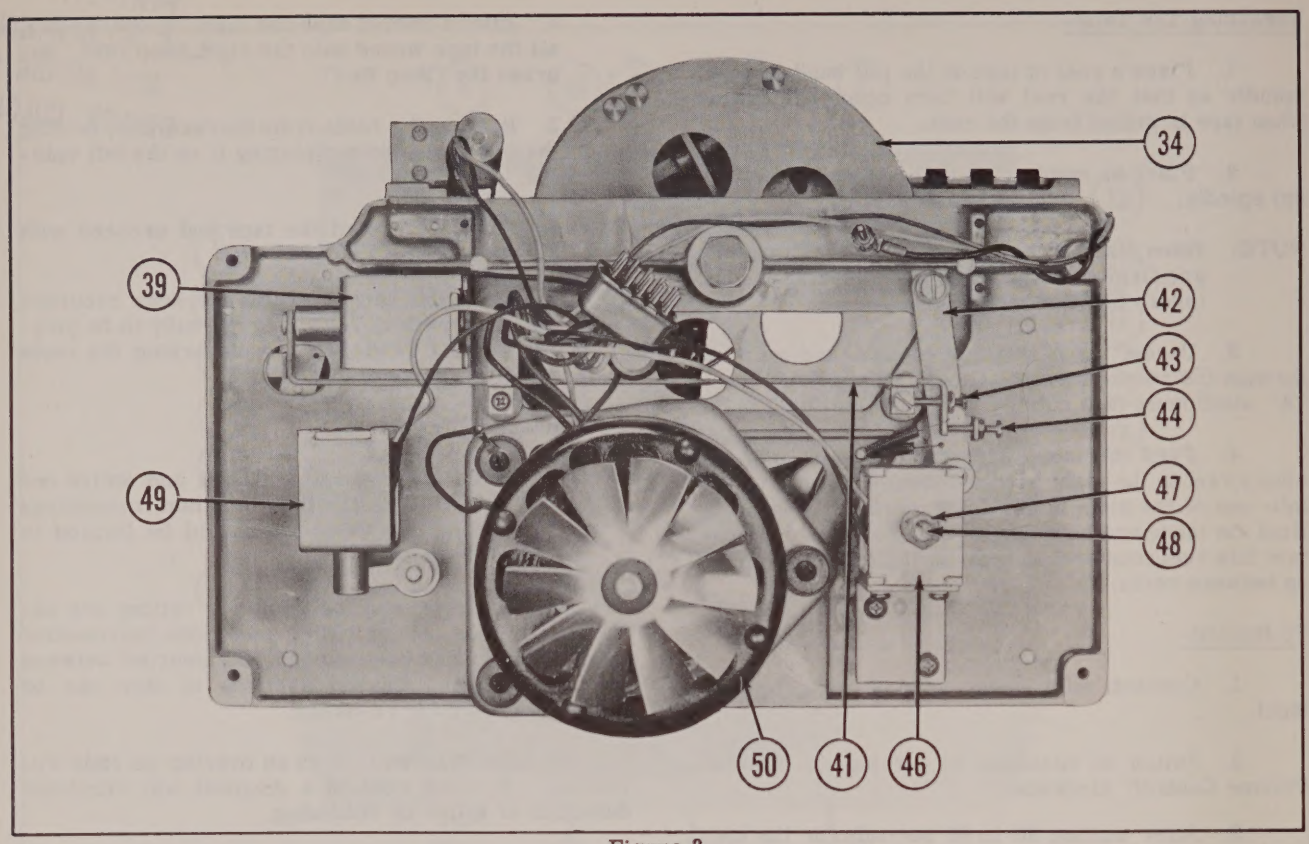

Figure 3

through action of takeup clutch (38). When any key except "Stop" is depressed the brake solenoid (39) is energized thereby releasing the takeup brake (42) and the feed spindle brake (29). When "Play" or "Rewind" is depressed the forward solenoid (46) is partially energized thereby pulling downward on the takeup spindle (2) and causing the spindle to be driven through the takeup clutch. When the "Fast Forward" key is depressed the forward solenoid (46) is fully energized thereby pulling downward on the takeup spindle (2) with sufficient force to virtually lock the spindle clutch producing a direct drive between the takeup pulley (12) and takeup spindle (2).

Rewind Drive- When either the "Record", "Fast Forward" or "Play" key is depressed the brake (29) is released and the feed spindle (1) is driven by the tape. Rotation of this spindle drives the counter assembly (31) by means of belt (6). When the "Rewind" key is depressed the rewind solenoid (49) is energized thereby swinging the feed spindle (1) toward the motor shaft causing the drum (5) to come in contact with the tire on the rewind driver (9). The rewind driver is driven through a clutch disc located between the driver and the flywheel drive pulley.

Pinch Roller- The pinch roller (19) is mounted on the pinch roller arm (20) which is pivoted on an eccentric stud (23). When either the "Play" or "Record" key is depressed the pinch roller solenoid (25) is energized thereby swinging the pinch roller over against the capstan. The head pad (18) is pivoted on the pinch roller arm so that, when the pinch roller presses the tape against the capstan, the head pad presses the tape against the head.

DISASSEMBLY INSTRUCTIONS

Removal of Panels-

1. Remove "Volume" and "Tone" control knobs. If knobs stick use a knob puller or slip the folded edge of a thin cloth under the edge of a knob and use the cloth as a puller.

2. Depress "Stop" key; then push record lock to the left and depress "Record" key. Loosen set screw in right-hand side of record lock knob and remove knob.

3. Remove the two screws at the front (operating side) corners of the plastic control panel.

4. Remove the four flat pan head screws which hold the metal panel in place.

5. Lift off the control panels.

Removal From Case-

1. Take off panels as described under "Removal of Panels".

2. If recorder is equipped with shipping locks, copper plated brackets located between the front corners of the cast mechanism plate and the sides of the case (these were not used on early production recorders), loosen the screws which hold the locks in place and remove the locks.

3. Place the recorder on its side and remove the six screws and finish washers from the bottom of the case. Slide the unit out of the case.

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NOTE: Be careful not to damage the felt pad located between the speaker baffle and the case.

Removal Of Tape Drive Mechanism From Amp. Chassis-

1. Take out the four screws (located at corners of casting) which hold the drive unit to the chassis. Lift up the drive unit and disconnect the 14 contact motor and solenoid plug and the single contact head plug. Lift the drive unit out of the chassis.

MECHANICAL ADJUSTMENTS

Brakes-

Proper operation of brakes is essential to good tape handling. Improper adjustment can be expected to lead to either tape spilling or tape breakage, therefore, it is essential that brake adjustments be made in the sequence, manner and in the amounts specified. The adjustments are as follows:

1. Loosen the rewind brake adjusting screw (27) enough to prevent the ear on actuating arm (28) from moving the arm upon which the brake roller is mounted, even though the brake solenoid plunger is pushed in as far as it will go.

2. With the brake solenoid plunger pressed in as far as possible (apply pressure to end of plunger, not to operating bar) adjust the operating bar stop screw (44) to 1/16" clearance between the end of the screw and the stop stud.

3. With the plunger depressed, as described above, adjust the rewind brake adjusting screw (27) to produce a clearance 0.020 to 0.025" between the brake roller and the spindle drum (5).

4. Release the brake solenoid plunger, then adjust the takeup brake roller adjusting screw (43) to produce a clearance of 0.020" between the end of the screw and the operating bar (41).

5. Thread the recorder with tape and check operation of the feed spindle brake as direction is changed from "Fast Forward" to "Stop" to "Rewind". If the brake slips on the drum, loosen the retaining screw for the brake spring anchor bracket (30) and rotate the bracket in order to increase the pressure of the brake roller on the drum.

Forward Solenoid-

Loosen the locknut (47) and adjust screw (48) to produce a tape tension of approximately 2 oz. at the start of a 7" reel-tension at the end of a 7" reel should be approximately 1/2 oz. when operating in "Record" or "Play" position. When "Fast Forward" is in use the takeup spindle should be virtually locked to the takeup pulley. In "Rewind", the spindle may revolve slowly when loaded with an empty 7" reel. Should it be necessary to remove the solenoid, it must be located with respect to the end of the spindle when reassembling. Remove adjusting screw (48) and the spring, plunger and disk, then insert a depth guage through the hole for the adjusting screw and locate the solenoid (vertically) so that the distance from the end of the spindle to the end of the bushing is 1.835".

Rewind Drive Clutch-

Locate the main drive pulley (32) so that the rewind drive tire (9) is above the bottom edge of the feed spindle drum (5). Place a 0.040" feeler guage between the top surface of the rewind drive disc (9) and the takeup drive pulley (7) - (just under the edge of the pulley). Press down on the takeup drive pulley until it touches the guage, then tighten the set screws in the takeup drive pulley.

Pinch Roller Adjustments-

Improper adjustment of the pinch roller (19) usually produces one of the following troubles:

1. "Monkey Chatter" effects due to excessive tape velocity.

2. "Woofy" effects due to low tape velocity.

3. Sluggish operation of pinch roller arm when switching from "Play" or "Record" to "Stop" or vice-versa.

4. "Wows".

If the pinch roller (19) is not pressing the tape firmly against the capstan (34), either condition 1 or 2 will occur (depending upon the amount of tape on the takeup reel and the takeup tension of the unit under test).

If the pinch roller (19) is pressed too firmly against the capstan (34), operation of the pinch roller arm will be sluggish.

NOTE: Sticking of the plunger of the pinch roller solenoid can also cause sluggish operation - this condition can also cause "wows".

In order to insure proper adjustment of the pinch roller mechanism proceed as follows:

1. Loosen the retaining screw for the stop cam (26) and turn cam to the position allowing minimum travel of the pinch roller arm (20).

2. Loosen the retaining screws for the pinch solenoid (25) so that the solenoid can be moved on the bracket.

3. Energize the pinch solenoid by depressing either the "Play" or "Record" key.

4. Press down on the plunger of the pinch solenoid (25), in order to make sure that the plunger is seated, then move the solenoid in order to bring the end of the pinch roller arm (20) in contact with the stop cam (26).

NOTE: If the pinch roller (19) binds on the capstan (34) it will be necessary to rotate the pinch roller arm pivot stud (23). Before rotating the stud, loosen its lock screw which is located on front of the recording mechanism assembly (35).

5. Tighten the pinch solenoid (25) mounting screws. Check to make sure that the plunger slips freely in the solenoid.

6. Thread the recorder with tape and depress the "Play" key.

7. Rotate the pivot stud (23) until the pinch roller holds the tape against the capstan with just enough pressure to feed the tape when the takeup reel is stopped and also prevent the takeup reel from pulling the tape through the capstan and pinch roller. (Excessive takeup tension can aggrevate this condition.)

8. Tighten the pressure arm pivot stud lock screw.

9. Remove the tape, then depress the "Play" key. Loosen the stop cam (26) retaining screw and rotate the cam slightly. If the pinch roller arm moves toward the cam, this indicates that the solenoid plunger is not seating on its stop. Should this condition be encountered, loosen the pinch solenoid (25) mounting screws and move the solenoid toward the plunger link in order to bring the plunger in contact with the stop.

10. Reset the stop cam.

11. Recheck the operation of the pinch roller with tape.

Belt Replacement-

The selection locator drive belt (6) and takeup belt (37) can be lifted off of the pulleys and replaced. Should it be necessary to replace the main drive belt (33), remove the takeup belt (37), then remove the 4 screws located at the ends of the recording mechanism assembly (35) and lift off the assembly. Install the new belt and replace the assembly.

ELECTRICAL TESTS AND ADJUSTMENTS

Bias Current-

Disconnect the shield of the recording head cable at the terminal strip directly behind the head. Insert a non-inductive resistor (not over 10 ohms) between the cable shield and the terminal and connect a VTVM across the resistor (keep lead length as short as possible). Depress the "Record" key. The voltage across the resistor should indicate a bias current of 0.6 to 0.8 milliampers.

Record Current-

Using the same setup as indicated above, remove the oscillator tube (V5), then connect an audio oscillator to the mike jack. Set the oscillator to 1000 C.P.S. and adjust the recorder "Volume" control so that the level indicator eye just closes (be sure to keep the output of the oscillator low enough so that the recorder "Volume" control is advanced more than half-way. This will avoid any danger of overloading the input section of (V2). The voltage across the resistor should indicate a record current of 0.06 to 0.08 milliampers.

Solenoids-

1. Many factors enter into the design of a solenoid, however, after the design is completed most of these factors are fixed and are of no concern to the serviceman. The serviceman is concerned with the following factors which effect performance:

(a) Current.

(b) Shorted turns.

(c) Mechanical forces resisting the pull of the plunger.

(d) Friction in the path of the plunger.

2. Testing- The following procedures are recommended.

(a) Current- open either lead of the solenoid under test and insert a D.C. milliammeter, adjust applied line voltage to produce 125 volts across the coil. The current should be 40-49 milliampers.

(b) Pull test- With a D.C. voltage of 120 volts across the coil and the plunger withdrawn 1/8" (lifted 1/8" off the stop) the pull should be 1 lb. minimum.

(c) Mechanical forces resisting pull of the plunger- check for binding of mechanical parts.

(d) Friction in path of plunger - remove plunger and examine inside of the bobbin.

NOTE: Some trouble was encountered in early units from the adhesive used in the bobbin having crept out onto the inner surface of the bobbin. This has been corrected but if encountered in early units remove by scraping. There should be approximately .005" clearance between the bobbin and plunger, if any binding is noted or clearance is inadequate, increase the ID of the bobbin by sanding with #00 sandpaper wrapped around a dowel. Warning! If inside of bobbin is sanded, blow out any dust before inserting plunger. Any difficulty of this nature can be expected to have been restricted to early production models only.

Head Orientation And Azimuth-

Remove the recorder head assembly and loosen the head retaining nut (located on the threaded bushing through which the head cable passes) enough so that the head can be rotated slightly on the mounting bracket. Install the head assembly and thread the recorder with 1 mil azimuth tape. Connect an output meter across the speaker. Depress the "Play" key and make a rough azimuth adjustment by rotating the adjustment nut (16). Rotate the record head to obtain maximum output. Remove the head assembly and tighten the head adjusting nut. Replace the head and rotate adjusting nut (16) to obtain maximum output. Warning! Watch out for a false peak-due to the short wave length it is possible to obtain a low peak when the ends of the head gap are displaced from a position normal to the line of tape travel by 1/2 wave length.

Erase Head Adjustments-

In order to position the erase head so that the tape passes through the center of the gap, loosen the erase head retaining screw and swing the head sideways to the proper position. Tighten the retaining screw. In order to locate the head vertically, loosen the retaining nut on front of the head mounting bracket,

and raise or lower the head so that the top surface of the pole pieces are even with the top edge of the tape.

Switch Maintenance-

Switch contacts can be cleaned with alcohol or carbon tetrachloride. Lubricate with Vaseline.

LUBRICATION

Place a light film of "Lubriplate" on all pivots. Apply 2 drops of clock oil to each capstan shaft bearing. The motor bearings are equipped with wicks which should be oiled once a year or every 500 hours of operation, whichever occurs first. Use clock oil or light machine oil (pure mineral oil only). Felt clutch disks may be cleaned with carbon tetrachloride, dried and then saturated with a mixture of 50% Amproil and 50% cabron tetrachloride. After lubricating the recorder, wipe the capstan, belts, pinch roller, feed spindle drum and rewind driver with a cloth dampened with carbon tetrachlorid in order to remove any oil which might have seeped onto these parts.

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TROUBLE CHART

TROUBLE	PROBABLE CAUSES	REMEDY
Recorder does not operate - no shadow in level eye.	1. Damaged switch on volume control.	Replace.
	2. Thermal cut-out in motor open due either to overheating or damage.	Clear air intakes, vents, and check fan.
Recorder does not operate - shadow in level eye.	1. Damaged solenoid power supply.	Repair.
	2. Shorted or open brake solenoid.	Replace.
	3. Brakes improperly adjusted.	Adjust.
Intermittent tape drive.	1. Thermal cut-out is cycling due to overheating.	Clean air intakes, vents, and check fan.
Motor runs - capstan does not revolve.	1. Damaged flywheel drive belt.	Replace.
	2. Flywheel drive belt off of pulleys.	Place on pulleys and check alignment.
	3. Capstan shaft binding.	Align bearings.
Takeup spindle does not revolve in "Play" or "Forward".	1. Damaged spindle drive belt.	Replace.
	2. Spindle solenoid plunger loose or improperly adjusted.	Adjust and tighten.
	3. Forward solenoid open.	Replace.
Takeup spindle revolves slowly in "Forward".	1. Forward solenoid improperly adjusted.	Adjust.
	2. Forward solenoid partially shorted.	Replace.
Feed spindle does not revolve in "Rewind".	1. Open solenoid.	Replace.
	2. Spindle arm is sticking.	Free the mechanism.
	3. Rewind driver clutch slipping.	Adjust.
Feed spindle turns clockwise to all running positions of keys.	1. Spindle arm is sticking.	Free the mechanism.
	2. Arm return spring is broken.	Replace.
	3. Solenoid plunger is sticking.	Free the plunger.
Tape winds loosely on takeup reel.	1. Warped reel.	Replace.
	2. Insufficient takeup tension.	Adjust.
Tape breaks on change from "Play" or "Record" to "Rewind".	1. Rewind driver clutch too tight.	Adjust clutch.
	2. Feed spindle brake improperly adjusted (slack tape).	Adjust brakes.
	3. Pinch roller operation is sluggish.	Check adjustment and check plunger clearance.

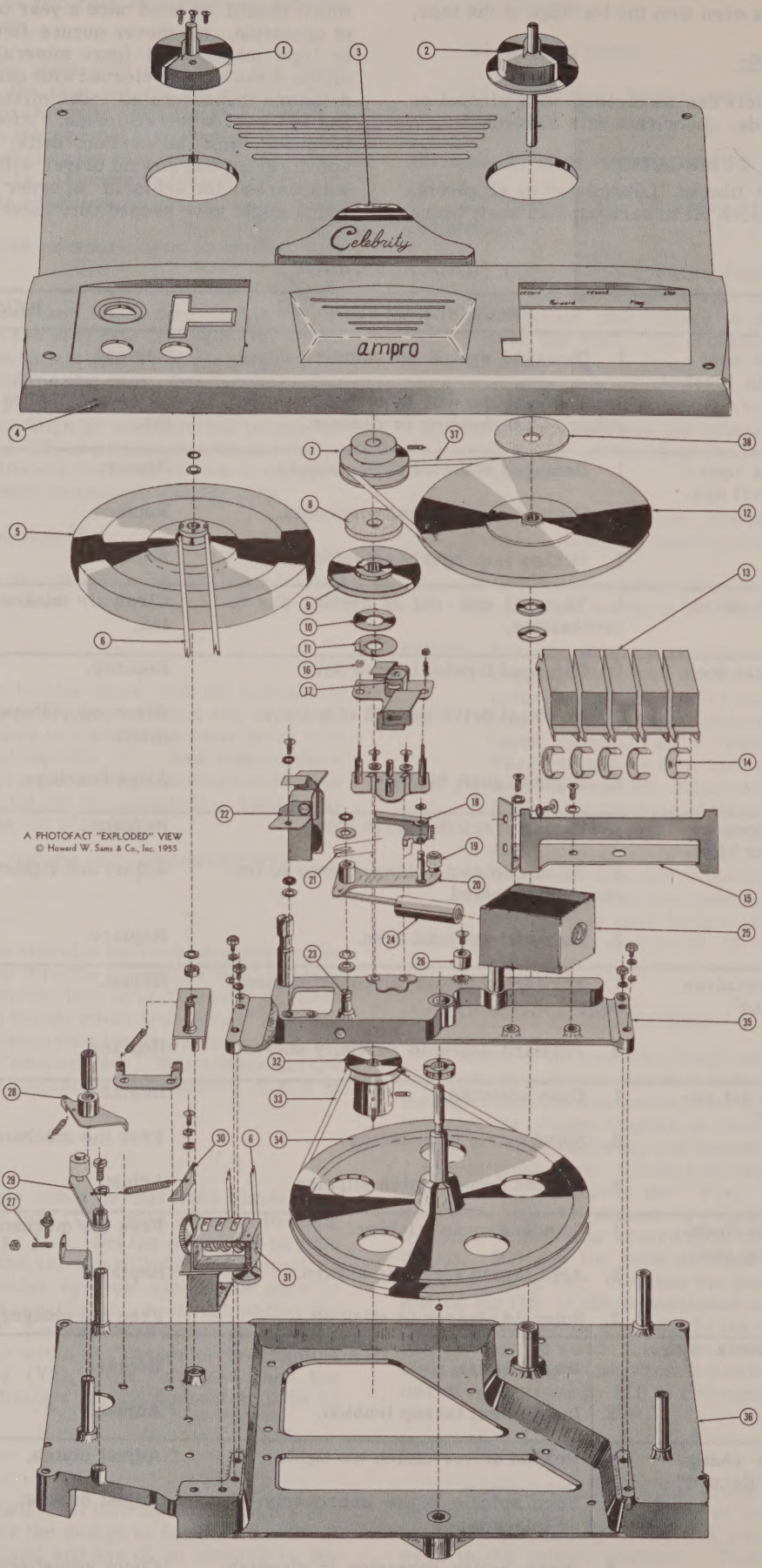

Figure 4A. Exploded View Of Parts Above Baseplate.

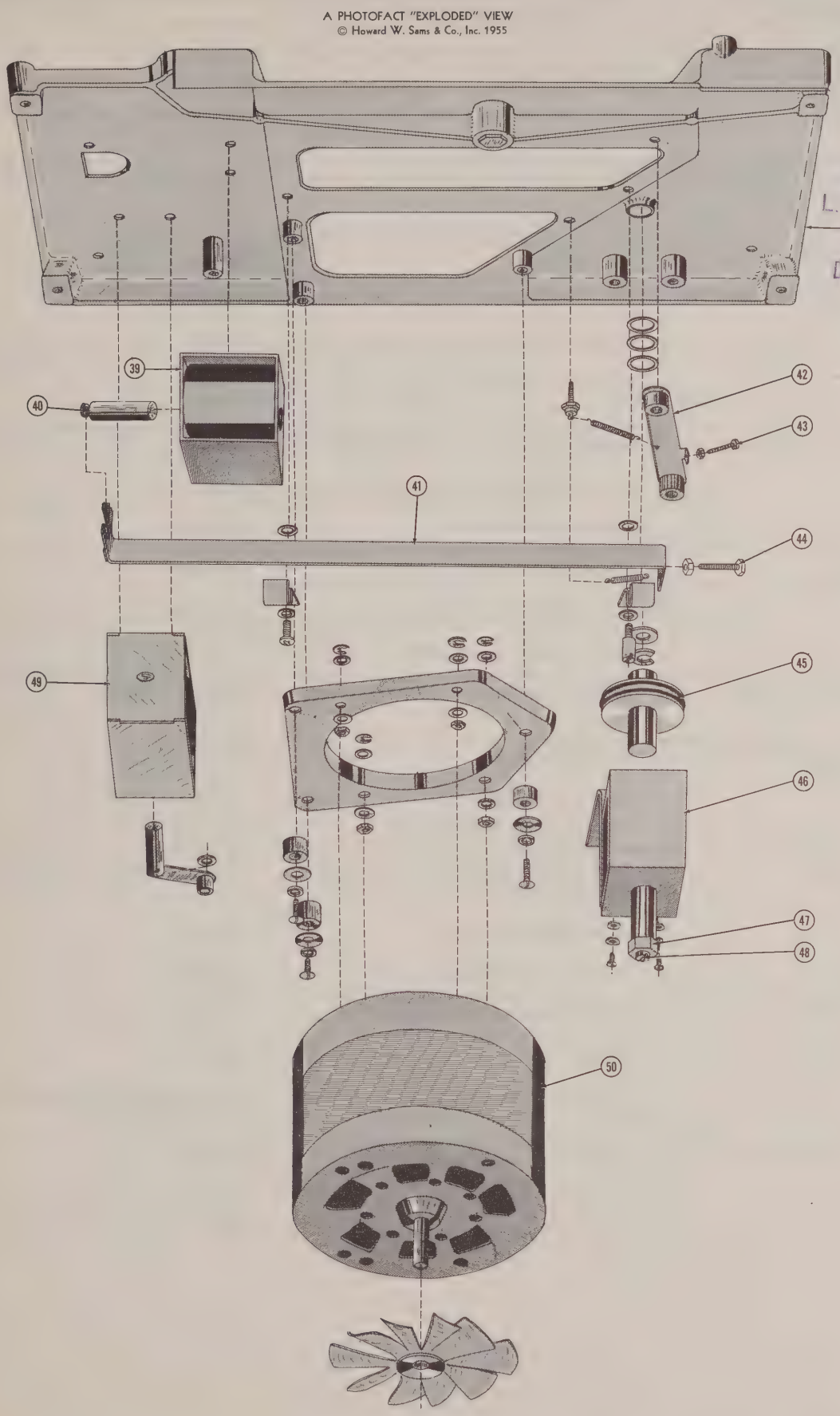

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Figure 4B. Exploded View Of Parts Below Baseplate.

TROUBLE CHART - Con't.

TROUBLE	PROBABLE CAUSES	REMEDY
Tape breaks on change from "Play" or "Record" to "Forward".	1. Feed spindle brake improperly adjusted (slack tape).	Adjust brakes.
	2. Pinch roller operation is sluggish.	Check adjustment and check plunger clearance.
Tape breaks on change from "Rewind" to "Forward".	1. Takeup spindle brake improperly adjusted.	Adjust brakes.
Tape rewound edgewise on feed reel.	1. Warped reel.	Replace.
	2. Erase head out of line.	Reposition.
	3. Rewind driver clutch too tight.	Adjust.
	4. Brakes improperly adjusted (slack tape).	
Pitch of sound too high or too low.	1. Inadequate pressure on pinch roller.	Adjust.
	2. Pinch solenoid plunger sticking.	Adjust.
	3. Pinch solenoid open.	Replace.
Keys stick.	1. Mounting bracket misaligned.	Re-align.
	2. Key slipped off of switch plunger.	Re-align.
	3. Control panel mis-aligned.	Re-align.
Keys thump on up stroke.	1. Rubber cushion missing from control panel.	Replace cushion.
Selection locator (counter) does not operate.	1. Damaged belt.	Replace.
	2. Belt off of pulleys.	Reposition belt.
	3. Control panel mis-aligned.	Re-align.
Buzzing noises.	1. Takeup belt oscillating (occured only in early models).	Exchange takeup drive pulley.
	2. Loose speaker grille.	Tighten.
	3. Loose case hardware.	Tighten.
Squeal on starting.	1. Capstan bearings out of line.	Re-align.
Rubbing noises.	1. Warped reel.	Replace.
	2. Flywheel slipped on shaft (rough handling).	Press flywheel shaft back to correct position and stake.
Inadequate clearance for threading.	1. Erase head out of line.	Re-align.
	2. Pressure pad in too far.	Bend detent to produce proper clearance.

ELECTRICAL AND SOUND TROUBLE CHART

TROUBLE	PROBABLE CAUSES	REMEDY
Amplifier squeals.	1. Broken shield at head connector.	Re-solder.
Crashing noises.	1. Damaged tubes.	Replace.
	2. Dirty switch.	Clean
Pitch of sound too high or too low.		See Mechanical trouble.
"Wows".	1. Pinch roller pressing too hard against capstan.	Re-adjust.
"Flutter".	1. Bent capstan shaft.	Replace capstan and flywheel assembly.
Loud tape hiss.	1. Very low recording level.	Record at correct level.
	2. Damaged erase head.	Replace head.
Will not record or play back.	1. Dirty recording head.	Clean.
Incomplete erasure.	1. Erase head not properly positioned.	Re-align.
	2. Damaged erase head.	Replace head.
	3. Excessive recording level.	Run tape thru erase process several times.
Partial erasure of second track.	1. Erase head set too low.	Adjust.

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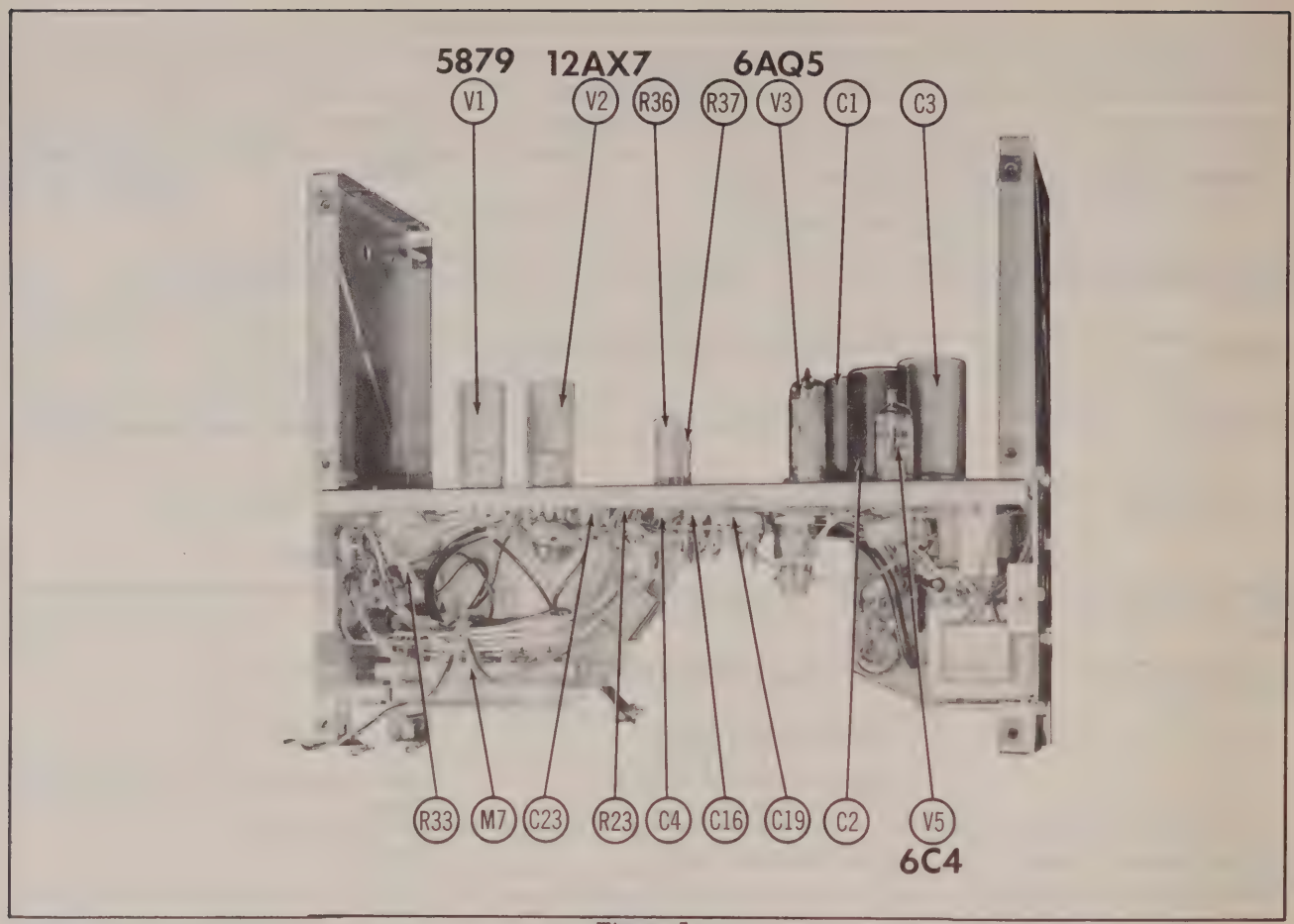


Figure 5

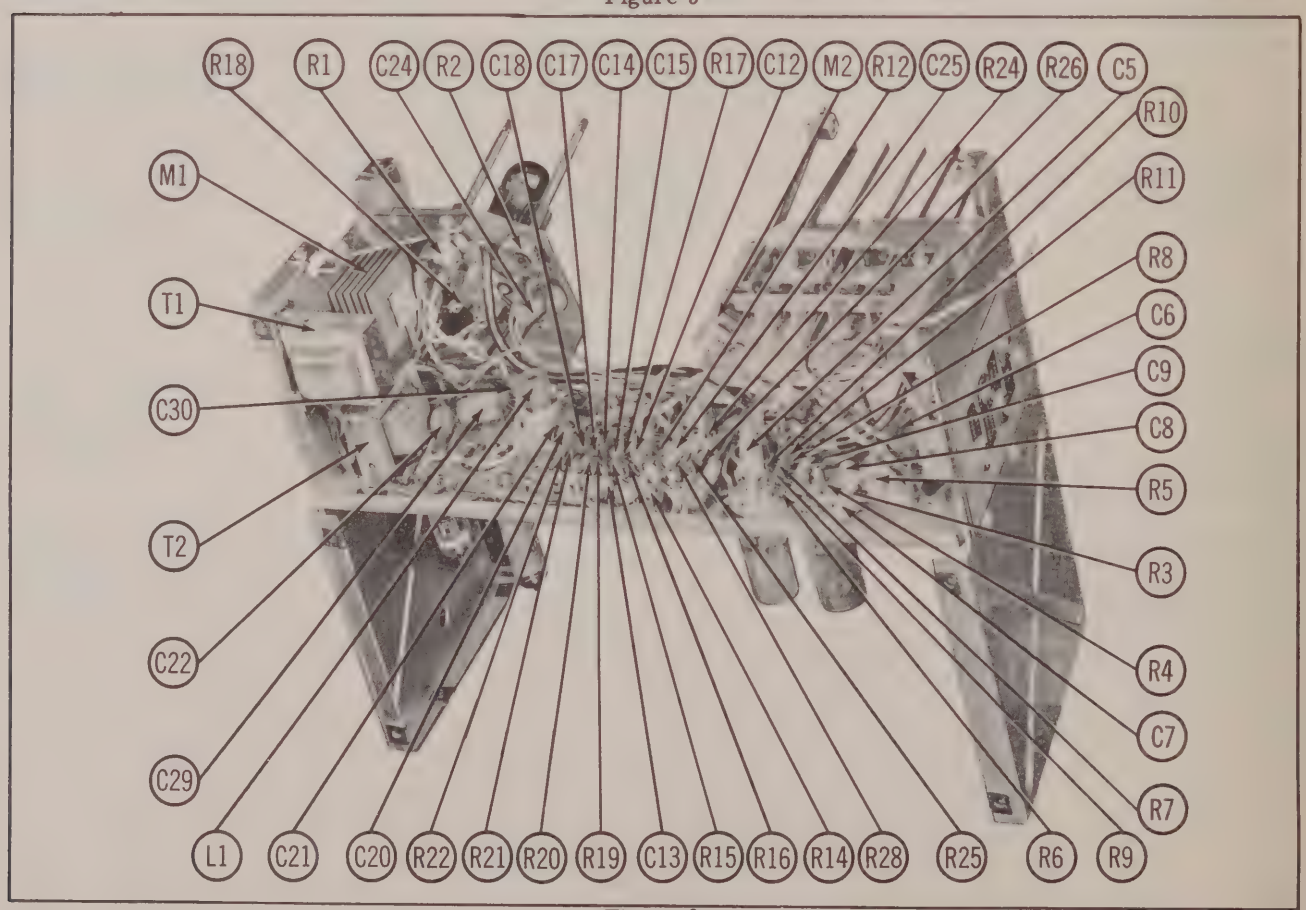
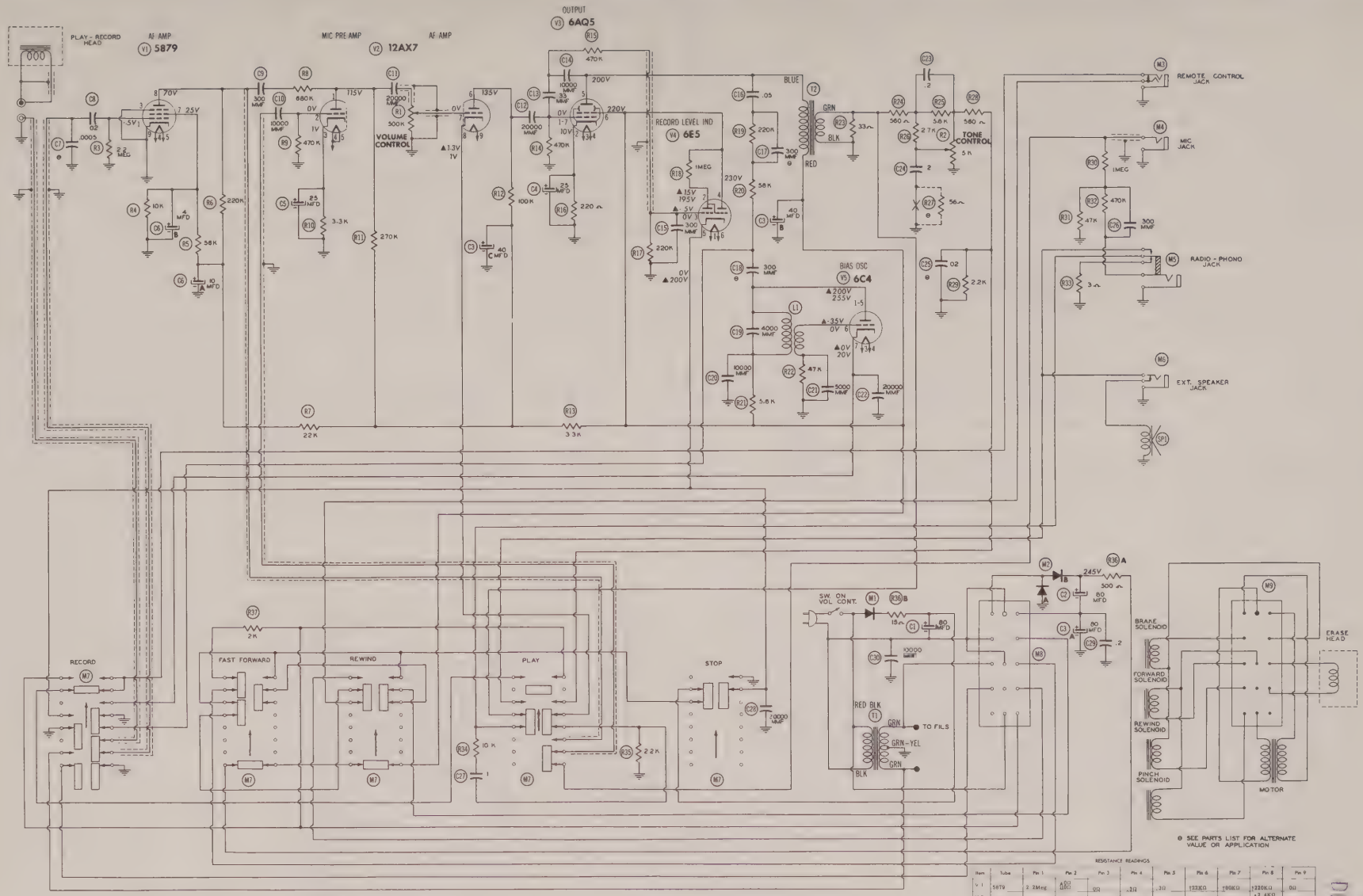


Figure 6



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ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
V1	18797	5879, AF Amp.
V2	18497	12AX7, Mic. Pre-Amp. & AF Amp.
V3	18701	6AQ5, Audio Output
V4	18985	6E5, Record Level Indicator
V5	18978	6C4, Bias Oscillator
C1	18491	Elect. Cap., 80 mfd. @150V.
C2	18491	Elect. Cap., 80 mfd. @150V.
C3A	18981	Elect. Cap., 80 mfd. @150V.
C3B		Elect. Cap., 40 mfd. @250V.
C3C		Elect. Cap., 40 mfd. @250V.
C4	18486	Elect. Cap., 25 mfd. @15V.
C5	18486	Elect. Cap., 25 mfd. @15V.
C6A	17111	Elect. Cap., 10 mfd. @200V.
C6B		Elect. Cap., 4 mfd. @200V.
C7	17754	Cap., .0005 mfd. @150V. (Mod. 756 uses a .0001 mfd. @500V. Cap. in this application, Part #18830)
C8	18579	Cap., .02 mfd. @150V.
C9	17110	Cap., 300 mmf., Ceramic
C10	18487	Cap., 10,000mmf., Ceramic
C11	17107	Cap., 20,000mmf., Ceramic
C12	17107	Cap., 20,000mmf., Ceramic
C13	17119	Cap., 33 mmf., Ceramic
C14	18487	Cap., 10,000mmf., Ceramic
C15	17110	Cap., 300 mmf., Ceramic
C16	17751	Cap., .05mfd. @400V.
C17	17110	Cap., 300 mmf., Ceramic (Mod. 756 uses a 100mmf. Ceramic Cap. in this application, Part #18493)
C18	17110	Cap., 300mmf., Ceramic (Mod. 756 uses a 200mmf. Ceramic Cap. in this application, Part #17126)
C19	18867	Cap., 4000mmf., Mica
C20	18487	Cap., 10,000mmf., Ceramic
C21	18488	Cap., 5000mmf., Ceramic
C22	17107	Cap., 20,000mmf., Ceramic
C23	17109	Cap., .2mfd. @150V.
C24	17109	Cap., .2mfd. @150V.
C25	18579	Cap., .02mfd. @150V. (Mod. 756 uses a .01mfd. @150V. Cap. in this application, Part #17129)
C26	17110	Cap., 300mmf., Ceramic
C27	17108	Cap., .1 mfd. @150V.
C28	17107	Cap., 20,000mmf., Ceramic
C29	17109	Cap., .2mfd. @150V.
C30	18487	Cap., 10,000mmf., Ceramic
R1	18986	Volume Control, 500KΩ
R2	18975	Tone Control, 5KΩ
R3	18465	Resistor, 2.2Meg., 1/2 Watt
R4	17553	Resistor, 10KΩ, 1/2 Watt
R5	17965	Resistor, 56KΩ, 1/2 Watt
R6	17959	Resistor, 220KΩ, 1/2 Watt
R7	18583	Resistor, 22KΩ, 1/2 Watt
R8	17099	Resistor, 680KΩ, 1/2 Watt
R9	18474	Resistor, 470KΩ, 1/2 Watt
R10	18466	Resistor, 3.3KΩ, 1/2 Watt
R11	18468	Resistor, 270KΩ, 1/2 Watt
R12	18470	Resistor, 100KΩ, 1/2 Watt
R13	18466	Resistor, 3.3KΩ, 1/2 Watt
R14	18474	Resistor, 470KΩ, 1/2 Watt
R15	18474	Resistor, 470KΩ, 1/2 Watt
R16	18719	Resistor, 220Ω, 1 Watt
R17	17959	Resistor, 220KΩ, 1/2 Watt
R18	17558	Resistor, 1 Meg., 1/2 Watt
R19	17959	Resistor, 220KΩ, 1/2 Watt
R20	17965	Resistor, 56KΩ, 1/2 Watt
R21	18470	Resistor, 5.6KΩ, 1/2 Watt
R22	17555	Resistor, 47KΩ, 1/2 Watt
R23	18771	Resistor, 33Ω, 2 Watt
R24	18610	Resistor, 560Ω, 1/2 Watt
R25	18470	Resistor, 5.6KΩ, 1/2 Watt
R26	18582	Resistor, 2.7KΩ, 1/2 Watt
R27	17127	Resistor, 56Ω, 1/2 Watt (Used only in Model 756)
R28	18610	Resistor, 560Ω, 1/2 Watt
R29	18472	Resistor, 2.2KΩ, 1/2 Watt
R30	17558	Resistor, 1Meg., 1/2 Watt
R31	17555	Resistor, 47KΩ, 1/2 Watt
R32	18474	Resistor, 470KΩ, 1/2 Watt
R33	18718	Resistor, 3Ω, 5 Watt
R34	17553	Resistor, 10KΩ, 1/2 Watt
R35	18472	Resistor, 2.2KΩ, 1/2 Watt
R36A	75709	Resistor, 500Ω, 5 Watt (Terminals 1 and 2)
R36B		Resistor, 15Ω, 5 Watt (Terminals 3 and 4)
R37	75710	Resistor, 2KΩ, 10 Watt
T1	75708	Filament Transformer (6.3V.)
T2	18989	Output Transformer
L1	17100	Oscillator Coil
SP1	75603	Speaker
M1	17091	Selenium Rectifier - MA250
M2A	17103	Selenium Rectifier - MA65
M2B	17103	Selenium Rectifier - MA65
M3	17084	Remote Control Jack
M4	17085	Mic. Jack
M5	17083	Radio-Phono Jack
M6	18597	Ext. Speaker Jack
M7	75704	Push-Button Switch
M8	18982	14 Prong Connector Socket
M9	18979	14 Prong Connector Plug

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1		Supply Spindle	26		Pressure Arm Stop Cam
2		Takeup Spindle	27		Rewind Brake Adjusting Screw
3		Head Cover	28		Brake Actuating Arm
4		Top Plate	29		Brake Roller Arm
5		Supply Spindle Drum	30		Brake Spring Anchor Bracket
6		Selection Locator Drive Belt	31		Selection Locator
7		Takeup Drive Pulley	32		Main Drive Pulley
8		Felt Clutch Pad	33		Main Drive Belt
9		Rewind Drive Disc	34		Flywheel & Capstan Assembly
10		Spring Washer	35		Recording Mechanism Assembly
11		Flat Washer	36		Main Baseplate
12		Takeup Pulley	37		Takeup Belt
13		Function Selector Keys	38		Felt Takeup Clutch
14		Key Mounting Springs	39	75918	Brake Solenoid
15		Mounting Bracket For Keys & Pinch Solenoid	40		Brake Solenoid Plunger
			41		Brake Operating Bar
16		Head Azimuth Adjusting Nut	42		Takeup Brake
17		Play-Record Head	43		Takeup Brake Roller Adjusting Screw
18		Pressure Pad & Arm Assembly	44		Operating Bar Stop Screw
19		Pressure Roller	45		Takeup Brake Drum & Tire Assy.
20		Pressure Roller Arm	46	75919	Forward Solenoid
21		Pressure Roller Arm Return Spring	47		Locknut
22		Erase Head	48		Forward Solenoid Adjusting Screw
23		Pressure Arm Pivot Stud	49	75918	Rewind Solenoid
24		Pinch Solenoid Plunger	50		Drive Motor
25	75918-1	Pinch Solenoid			

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MODEL 15-550KB-UHF

ARVIN
MODEL 15-550KB-UHF

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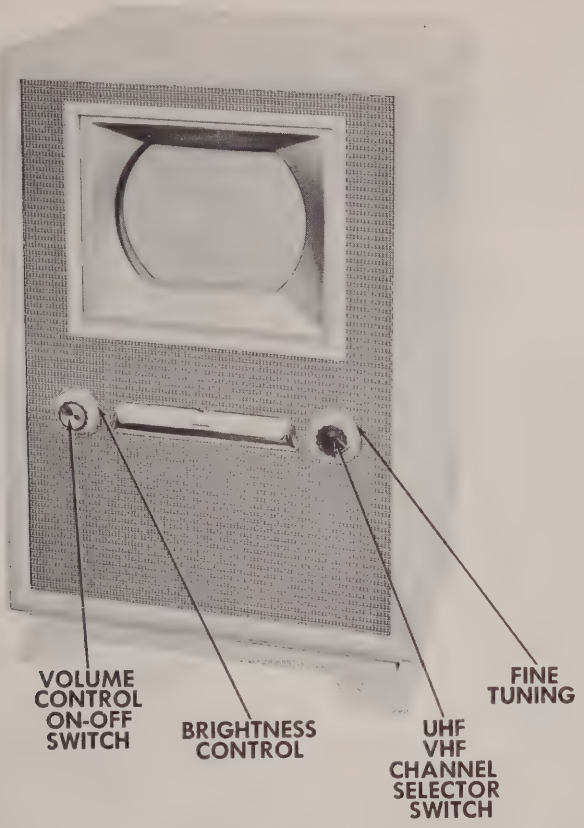

ARVIN
MODEL 15-550KB-UHF

TRADE NAME	Arvin Model 15-550KB-UHF
MANUFACTURER	Arvin Industries, Inc., Columbus, Indiana
TYPE SET	Color Television Receiver
TUBES	Thirty-seven
POWER SUPPLY	110-120 Volts AC-60 Cycles RATING 4.02 Amp. @ 117 Volts AC
TUNING RANGE—	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

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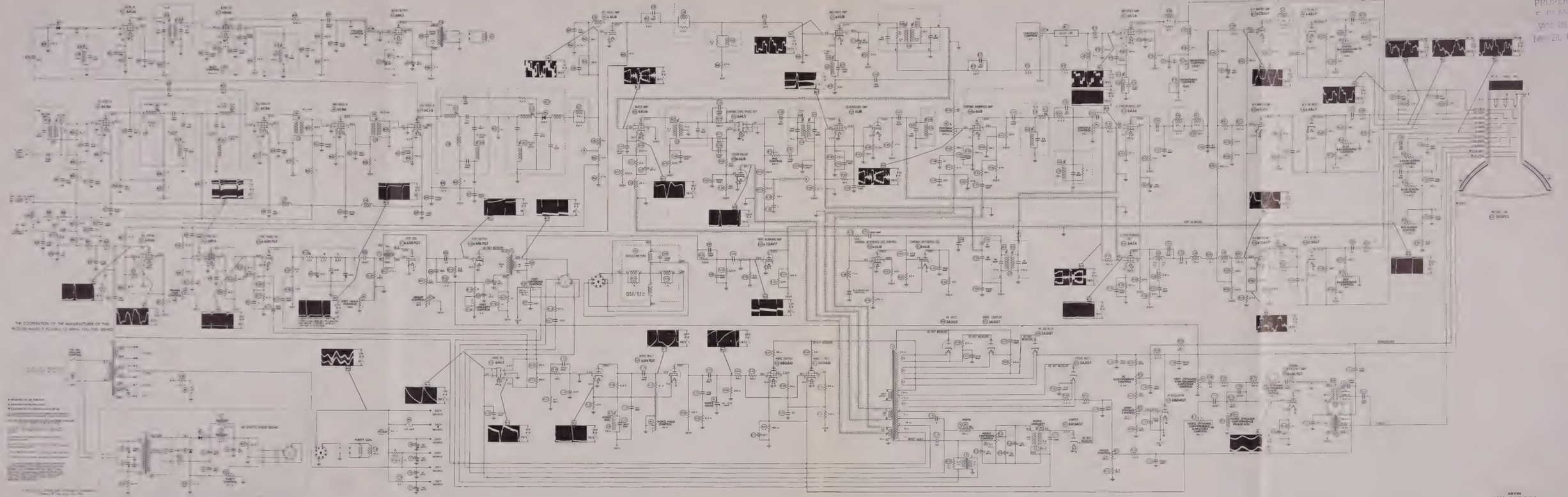

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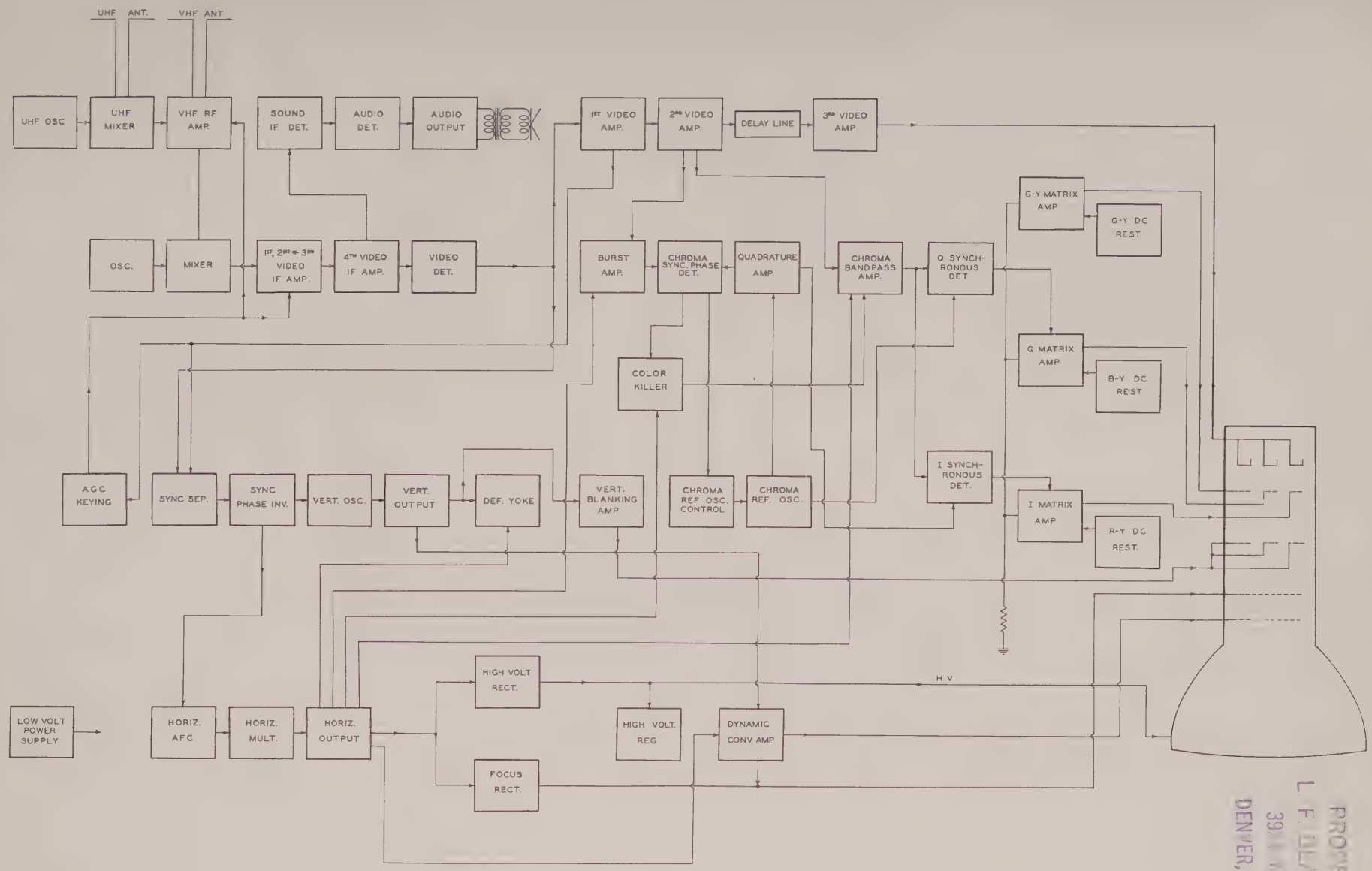

BLOCK DIAGRAM

MODEL 15-550KB-UHF

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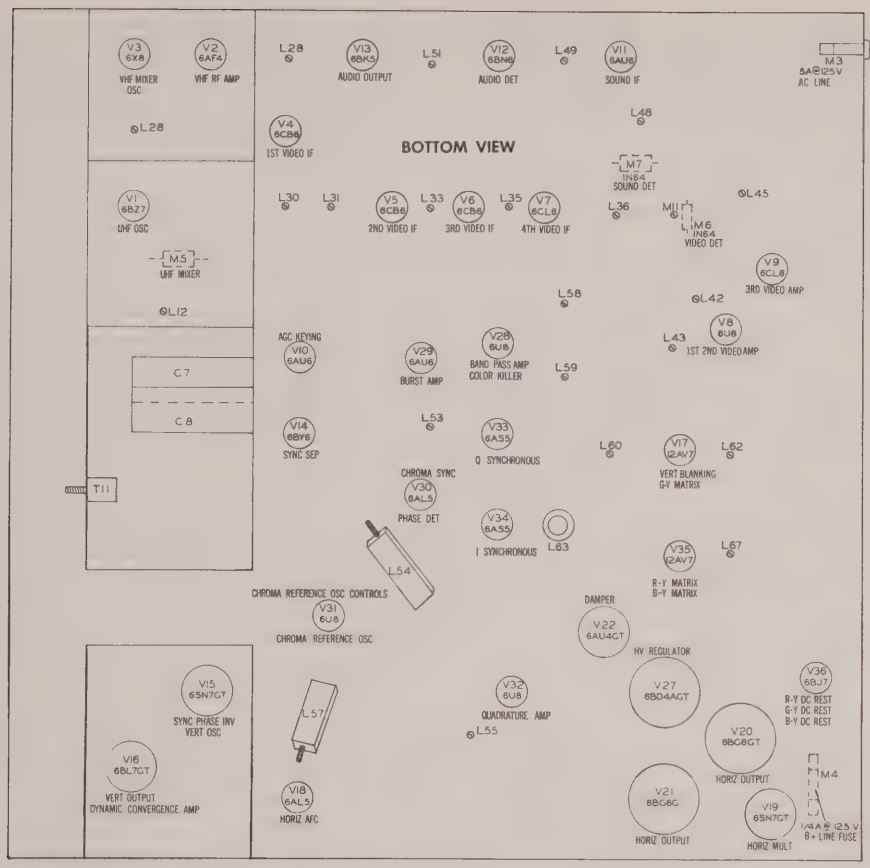
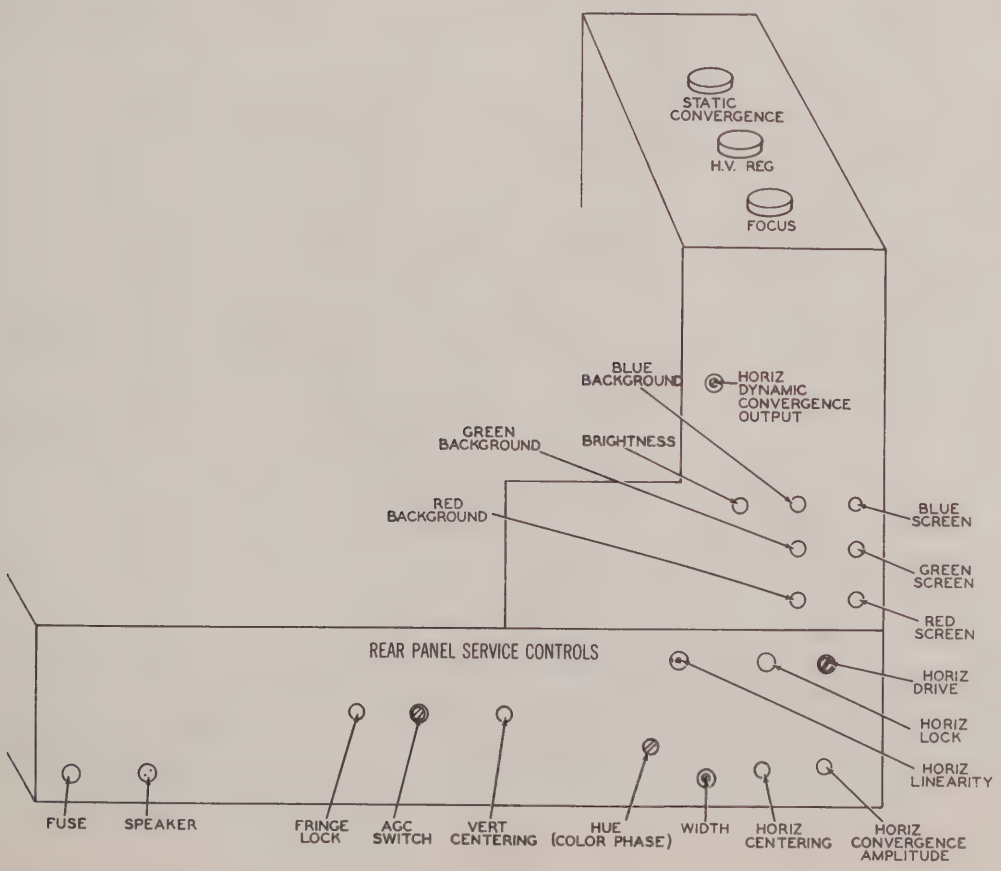
RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6AF4	†♦5.6KΩ	15KΩ	.1Ω	0Ω	0Ω	15KΩ	†♦5.6KΩ		
V 2	6BZ7	†1.2KΩ	350KΩ	INF	.1Ω	0Ω	INF	■57KΩ	0Ω	0Ω
V 3	6XB	0Ω	16KΩ	†8.1KΩ	0Ω	.1Ω	1KΩ	220KΩ	†5.6KΩ	†4.4KΩ
V 4	6CB	90KΩ	47Ω	0Ω	.1Ω	†5.4KΩ	†4.4KΩ	0Ω		
V 5	6CB6	85KΩ	47Ω	0Ω	.1Ω	†4.4KΩ	†4.4KΩ	0Ω		
V 6	6CB6	85KΩ	47Ω	0Ω	.1Ω	†4.4KΩ	†4.4KΩ	0Ω		
V 7	6CL6	150Ω	.2Ω	†12.5KΩ	.1Ω	0Ω	†1.5KΩ	0Ω	†12.5KΩ	.2Ω
V 8	6U8	†10.5KΩ	1Meg	†33.5KΩ	.1Ω	0Ω	†4.5KΩ	330Ω	0Ω	3.9KΩ
V 9	6CL6	56Ω	470KΩ	†23KΩ	0Ω	.1Ω	†3.5-6KΩ	0Ω	†23KΩ	470KΩ
V 10	6AU6	†20KΩ	†2.1KΩ	0Ω	.1Ω	260KΩ	†13.5KΩ	†2.1KΩ		
V 11	6AU6	1.3Ω	0Ω	0Ω	.1Ω	†3.1KΩ	†3.1KΩ	68Ω		
V 12	6HN6	180Ω	2.9Ω	.1Ω	0Ω	†9KΩ	4.6Ω	†380KΩ		
V 13	6BK5	†3KΩ	INF	300KΩ	.1Ω	0Ω	180Ω	300KΩ	†2.5KΩ	INF
V 14	6BY	50KΩ	0Ω	0Ω	.1Ω	†40KΩ	†33KΩ	1.5Meg		
V 15	6SN7GT	2Meg	†2Meg	0Ω	†40KΩ	†4.1KΩ	5.8KΩ	.1Ω	0Ω	
V 16	6BL7GT	2.2Meg	†1.2KΩ	1.2KΩ	3.3Meg	†1.2KΩ	1KΩ	0Ω	.1Ω	
V 17	12AV7	†3.1KΩ	†1.2Meg	2.9KΩ	0Ω	0Ω	†50KΩ	3.9Meg	0Ω	.1Ω
V 18	6AL5	4.8Meg	4.8Meg	.1Ω	0Ω	14Ω	0Ω	14Ω		
V 19	6SN7GT	5.7Meg	†8.3KΩ	1.2KΩ	120KΩ	†120KΩ	1.2KΩ	.1Ω	0Ω	
V 20	6BG6GT	INF	0Ω	60Ω	INF	470KΩ	INF	.1Ω	†5.6KΩ	TOP CAP ▲72Ω
V 21	6BG6GT	INF	0Ω	60Ω	INF	470KΩ	INF	.1Ω	†5.6KΩ	TOP CAP ▲72Ω
V 22	6AU4GT	INF	INF	INF	INF	†100Ω	INF	.1Ω	0Ω	
V 23	3A3GT	INF	11Meg	INF	INF	INF	INF	11Meg	INF	TOP CAP ▲2.5Ω
V 24	3A3GT		PINS	1 - 8	HAVE	INF	RESISTANCE			TOP CAP ▲28Ω
V 25	3A3GT		PINS	1 - 8	HAVE	INF	RESISTANCE			TOP CAP INF
V 26	3A3GT	INF	130Meg	INF	INF	INF	INF	130Meg	INF	TOP CAP INF
V 27	6BD4AGT	†25Ω	†25Ω	INF	INF	1.8 - 4.5Meg	INF	†25Ω	INF	TOP CAP 130Meg
V 28	6U8	27KΩ	37KΩ	†48KΩ	0Ω	.1Ω	†23KΩ	100Ω	0Ω	4.5Meg
V 29	6AU6	2.4Ω	12KΩ	0Ω	.1Ω	†2.6KΩ	†2.1KΩ	12KΩ		
V 30	6AL5	560KΩ	560KΩ	0Ω	.1Ω	30Meg	0Ω	30Meg		
V31	6U8	†11KΩ	30Meg	†23KΩ	.1Ω	0Ω	†1.1KΩ	270Ω	270Ω	22KΩ
V32	6U8	†27KΩ	100KΩ	†56KΩ	.1Ω	0Ω	†2.6KΩ	270Ω	220Ω	100KΩ
V33	6AS6	200Ω - 1.1KΩ	150Ω	0Ω	.1Ω	†8.6KΩ	†25KΩ	2.6Ω		
V34	6AS6	200Ω - 1.1KΩ	150Ω	0Ω	.1Ω	†8KΩ	†25KΩ	1.7Ω		
V35	12AV7	†7.2KΩ	1Meg	2.9KΩ	0Ω	0Ω	†20KΩ	†80KΩ	2.7KΩ	.1Ω
V36	6BJ7	2-2.5Meg	1.2 - 1.7Meg	INF	.1Ω	0Ω	1.2 - 1.7Meg	2-2.5Meg	1.2 - 1.7Meg	2-2.5Meg
V37	15GP22	INF	3.5 - 5.5KΩ	2-2.5Meg	50KΩ - 1Meg	PIN 6 10Meg	PIN 7 15KΩ	PIN 8 2-2.5Meg	PIN 9 50KΩ-1Meg	PIN 13 100Meg
								PIN 18 2-2.5Meg	PIN 19 15KΩ	PIN 20 INF

† MEASURED FROM OUTPUT OF M2
■ MEASURED WITH AGC SWITCH IN "DISTANCE" POSITION
♦ MEASURED IN UHF POSITION
▲ MEASURED FROM PIN 3 OF V22

TUBE PLACEMENT CHART


BOTTOM VIEW
V3 6X8 VHF MIXER OSC
V2 6AF4 VHF RF AMP
V13 6BK5 AUDIO OUTPUT
V12 6BN6 AUDIO DET
V11 6AU8 SOUND IF
M3 5A@125V AC LINE
V4 6CB6 1ST VIDEO IF
M7 1N64 SOUND DET
V1 6BZ7 UHF OSC
V5 6CB6 2ND VIDEO IF
V6 6CB6 3RD VIDEO IF
V7 6CL6 4TH VIDEO IF
M6 1N64 VIDEO DET
M5 UHF MIXER
V9 6CL6 3RD VIDEO AMP
V8 6U8 1ST 2ND VIDEO AMP
AGC KEYING V10 6AU6
V29 6AU6 BURST AMP
V28 6U8 BAND PASS AMP COLOR KILLER
C7
C8
V14 6BY6 SYNC SEP
V33 6AS5 Q SYNCHRONOUS
V17 12AV7 VERT BLANKING G-Y MATRIX
T11
CHROMA SYNC V30 6AL5 PHASE DET
V34 6AS5 I SYNCHRONOUS
V35 12AV7 R-Y MATRIX B-Y MATRIX
L54
CHROMA REFERENCE OSC CONTROLS
V31 6U8 CHROMA REFERENCE OSC
DAMPER V22 6AU4GT HV REGULATOR
V15 6SN7GT SYNC PHASE INV VERT OSC
V32 6U8 QUADRATURE AMP
V27 6BD4AGT
V36 6BJ7 R-Y DC REST G-Y DC REST B-Y DC REST
V16 6BL7GT VERT OUTPUT DYNAMIC CONVERGENCE AMP
V18 6AL5 HORIZ AFC
V20 6BG6GT HORIZ OUTPUT
V21 6BG6G HORIZ OUTPUT
V19 6SN7GT HORIZ MULT
M4 1/4A@125V B+ LINE FUSE



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MODEL 15-550KB-UHF

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage shock hazard may be eliminated by removing the horizontal output tubes (V20 and V21) from their sockets.

VIDEO IF ALIGNMENT

Remove the AGC keying tube (6AU6/V10) from its socket.
Connect the negative lead of 2. 5 volt bias supply to the junction of R87 and R88. Connect the positive side to chassis. Turn the triple power switch to "Suburban" position.
If two peaks occur during adjustment turn the core fully counter clockwise then clockwise until the first peak is obtained.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an ungrounded tube shield floating over VHF converter tube (V3). Low side to tuner chassis.	39.75MC (Unmod)	9, 10 or 11	DC probe thru 18KΩ to point (A). Common to chassis.	A1	Adjust for MINIMUM deflection.
2.	"	"	41.25MC	"	"	A10, A11	Detune A2 counter clockwise. Adjust for MINIMUM deflection.
3.	"	"	41.25MC	"	DC probe thru detector (Fig.1) to pin 2 (grid) of V7.	A2	Adjust for MINIMUM deflection.
4.	"	"	47.25MC	"	DC probe thru 18KΩ to point (A). Common to chassis.	A3	"
5.	"	"	43.2MC	"	"	A4	Turn A5 fully counter clockwise and adjust A4 for maximum deflection.
6.	"	"	45.2MC	"	"	A5	Adjust for maximum deflection.
7.	"	"	44.0MC	"	"	A6	"
8.	"	"	42.2MC	"	"	A7	"
9.	"	"	40.3MC	"	"	A8	"
10.	"	"	45.2MC	"	"	A9	Adjust for maximum deflection. Repeat steps 8, 9 and 10.

OVERALL VIDEO IF RESPONSE CHECK

Connect a 300MMFD capacitor across the vertical input terminals of oscilloscope.
Connect the high side of an RF signal generator to chassis near V4 to provide markers. Leave the low side disconnected.
Increase the bias from - 2. 5 volts to - 3. 5 volts. Use only enough sweep generator output to provide usable indication on scope.
Restore converter tube shield to its normal position.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
11.	Two 120Ω Carbon Resistors	Across VHF antenna terminals with 120Ω in each lead.	195MC (10MC Swp)	41.25MC 41.6MC 42.25MC 45.75MC 47.25MC	10	Vert. Amp. thru 18KΩ to point (A). Low side to chassis.	A12,A13	Adjust for flat-top response similar to Fig. 2. If necessary, SLIGHTLY retouch A4 thru A9 to obtain desired response.

SOUND IF ALIGNMENT USING ON THE AIR TV SIGNAL

Replace V10, V20 and V21 in their tube sockets. Remove the bias supply and tune in a TV station. Connect an attenuator in series with the antenna and receiver antenna terminals so that the signal may be varied from weak to strong. If a suitable attenuator is not available, stray feed the signal to the receiver by placing the antenna lead in near the antenna terminals.
Attenuate the signal input to the receiver until hiss is heard in the sound. If during adjustment the hiss should disappear, increase attenuation until the hiss returns.
Adjust the sound take-off coil (A14), the sound IF transformer (A15 and A16), the quadrature coil (A17) and the buzz control (R24) for clearest sound and minimum buzz.
If satisfactory attenuation of signal input is difficult to obtain, follow the procedure outlined below.

SOUND IF ALIGNMENT USING ON THE AIR TV SIGNAL AND VTVM

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
12.		Tune in TV station	Not used	Any on the air channel	DC probe thru detector (Fig.1) to pin 2 (grid) of V12 (6BN6)	A14, A15, A16	Adjust for maximum deflection. When adjusting A14 use the peak that occurs at farthest clockwise rotation of A14.
13.		"	"	"	Not used	A17	Set buzz control (R24) at its mid-range position. Adjust A17 for maximum sound. Adjust R24 for MINIMUM buzz. Final adjustment of R24 should occur near its mid-range position.

4.5MC TRAP ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
14.	.001MFD	High side to point (A) Low side to chassis.	4.5MC (Unmod)	Any unused channel	DC probe thru detector (Fig.1) to junction of L46 and L47 (plate circuit of V9).	A25	Adjust for MINIMUM deflection.

VHF OSCILLATOR ALIGNMENT

Set the fine tuning control to its mid-range position. Tune in a station between channels 7 and 13 and adjust A18 for clearest picture and best sound. Tune in a low band station between channels 2 and 6 and adjust A19 for clearest picture and best sound.

VHF RF AND MIXER ALIGNMENT

This portion of the receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

UHF TUNER ALIGNMENT

Alignment of the UHF tuner is not recommended in the field. If the unit is known to be misaligned or in need of major repair, the entire UHF tuner should be returned to the factory service department.

ALIGNMENT INSTRUCTIONS (cont)

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VIDEO AMPLIFIER AND COLOR SYNC CIRCUIT ALIGNMENT

To minimize the loading on the receiver's 3.58MC circuits, construct the "gimmick" shown in Fig. 3.
The "gimmick" may be housed in an old IF can mounted near the probe end of the vertical amplifier input cable. The coil should be adjusted so that resonance occurs at 3.58MC as indicated by maximum response on scope.
The "gimmick" should be used with the scope to which it is matched as the range of the coil inductance will vary considerably from scope to scope.

1. Connect the vertical amplifier of scope (and gimmick Fig. 3) to pin 1 (cathode) of the chroma sync phase detector (V30).
2. Tune in a transmitted color signal or connect a NTSC color signal generator thru Fig. 4 to the VHF antenna terminals. Adjust A20, A21 and A22 for maximum indication on scope. Remove scope.
3. Connect a short clip lead from point (B) to chassis. Connect the DC probe of a VTVM to pin 9 (grid) of the chroma oscillator (V31B). Adjust A23 for maximum deflection (approx. -12V). Remove VTVM.
4. Connect the vertical amplifier of scope (and gimmick Fig. 3) to pin 7 (suppressor grid) of 6AS6 (V34). Adjust A24 for maximum indication on scope.
5. Move the scope and "gimmick" to pin 7 (suppressor grid) of 6AS6 (V33). Adjust the quadrature amp plate coil (A26) for maximum indication on scope (20-50 volts PP).
6. Move scope and "gimmick" to pin 6 (plate) of V32 (6U8). Detune A28 counter clockwise. Adjust A27 for maximum indication on scope. Move scope and "gimmick" to center arm of R11A. Adjust A28 so that maximum and near equal amplitudes occur at fully clockwise and counter clockwise portions of R11A. Remove clip lead from point (B) to chassis. Connect DC probe of VTVM to point (B). Common to chassis.
7. Connect the potentiometer center arm of variable DC voltage source (Fig. 5) to point (B). With a color picture tuned in and the chroma control adjusted in a clockwise direction, adjust the potentiometer arm of the variable DC voltage supply until the chroma oscillator locks in or is very close to the lock in point as evidenced by a gradual change of hue in the colored portions of the picture.
8. Adjust the potentiometer arm for zero volts at point (B). Adjust the chroma hold fine tuning trimmer (A29) and if necessary slightly retouch A23 until the color on screen is in or near sync as indicated by a gradual change in hue in the color portions of the picture.
9. Readjust DC voltage at point (B) until picture is in or near sync and switch tuner to a channel on which a black and white picture may be tuned in. The VTVM indication should be between - 1 volt and + 1 volt. Switch back to the channel on which the color signal is tuned in and readjust A29 until the indication on the VTVM is the same as was obtained with the black and white picture tuned in.

BAND PASS AMPLIFIER ALIGNMENT

Remove V8 (6U8) from its socket.
Connect a short jumper from pin 7 (suppressor grid) of V33 (6AS6) to chassis. Connect another jumper from the ungrounded side of C167 to the ungrounded side of C168.
Connect the high side of a video sweep generator through a .01MFD capacitor to pin 2 (grid) of V28 (6U8). Adjust video sweep generator for 0-5MC sweep. Connect the vertical amplifier of scope through detector probe (Fig. 1) to pin 5 (plate) of V33 (6AS6).
Adjust A30, A31 and A32 for response similar to Fig. 6.
Replace V8 in its socket and remove jumper from pin 7 of V33 and jumper from C167 to C168.

Q AND I BALANCE

Connect a color signal generator, providing ± "Q" and ± "I" signals, across the antenna terminals. Connect the vertical amplifier of the oscilloscope to pin 2 (grid) of V35A (12AV7). Connect the low side to chassis.
Switch off the "I" channel at the color signal generator. Switch the "Q" channel to "On" position. Turn the hue control (R11A) for minimum "I" channel indication on scope.
If the response does not go through a null, slightly retouch A20, A21 and A22 until a null can be obtained.
Turn the "Q" channel off and the "I" channel on at the color signal generator.
Move the scope to pin 2 (grid) of V17 (12AV7).
Adjust A26 for minimum indication on scope. Remove color signal generator.
Connect a jumper from pin 7 (suppressor grid) of V34 (6AS6) to pin 2 (grid) of V9 (6CL6). Connect the vertical amplifier of scope to pin 2 (cathode) of picture tube. Adjust A33 for minimum indication on scope.

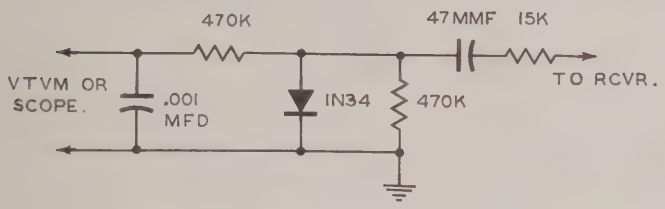


FIG. 1

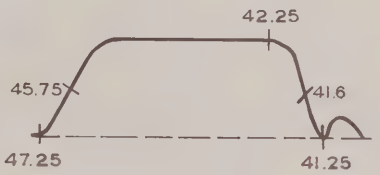


FIG. 2

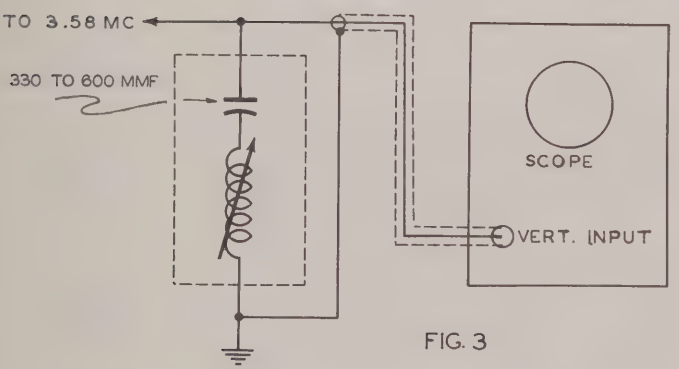


FIG. 3

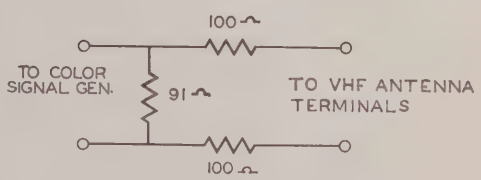


FIG. 4

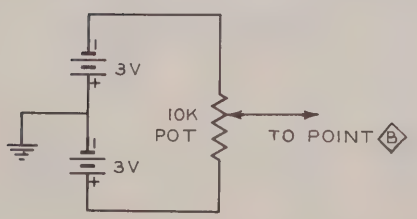


FIG. 5

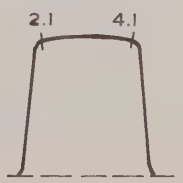
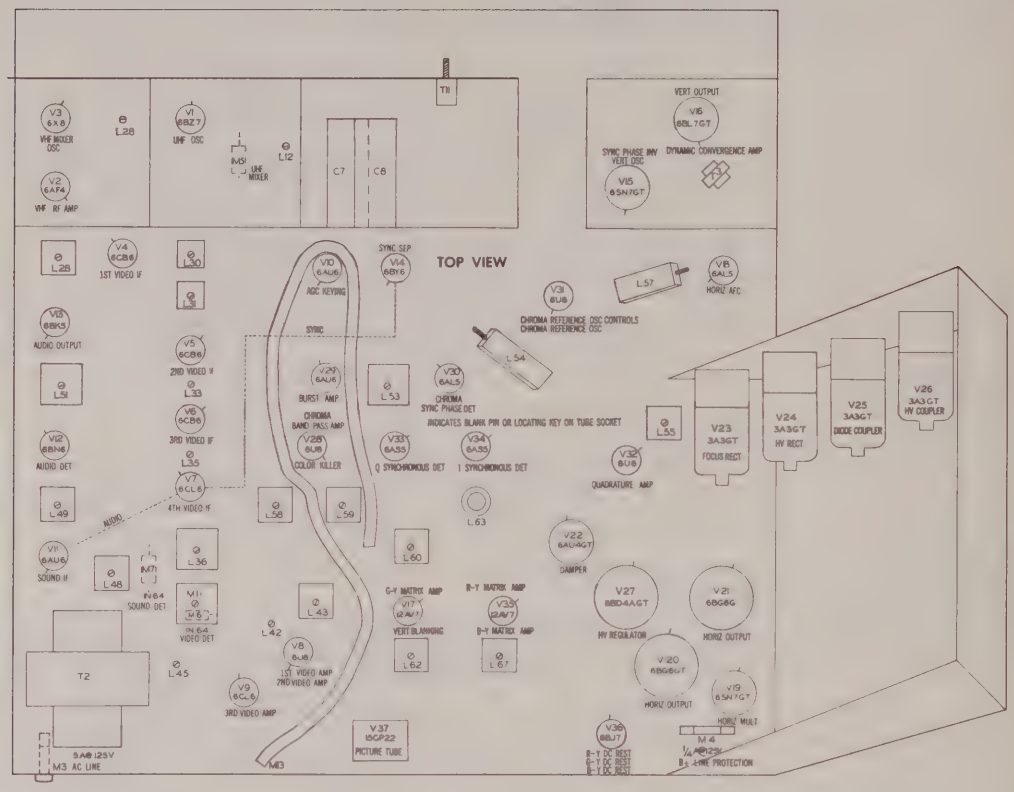
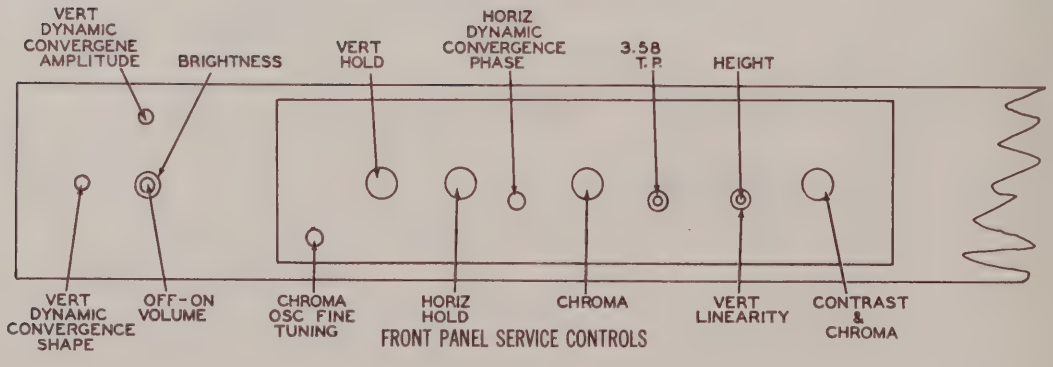
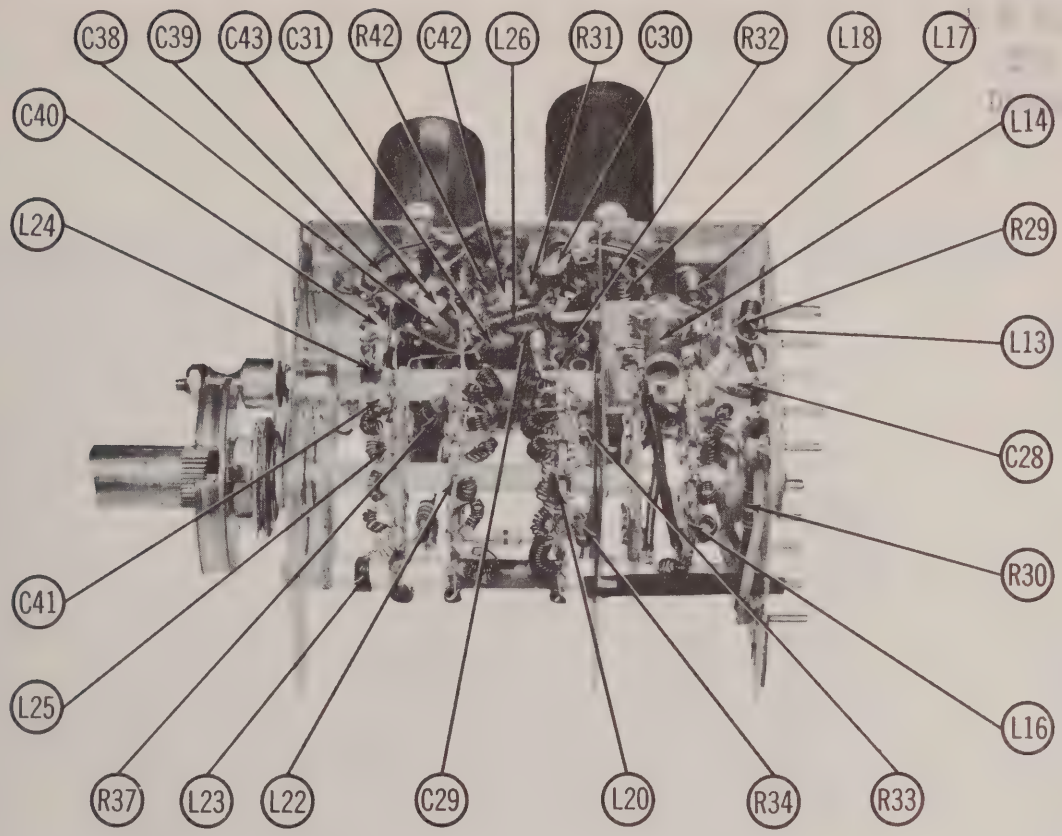


FIG. 6

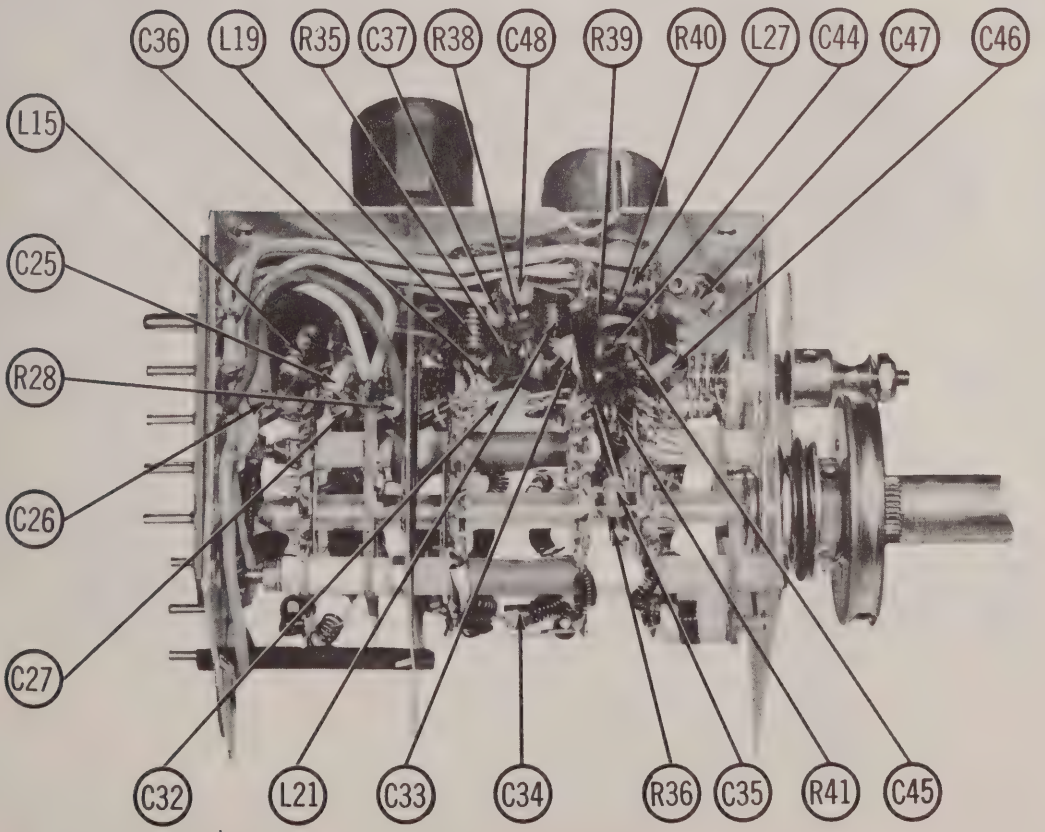
TUBE PLACEMENT CHART



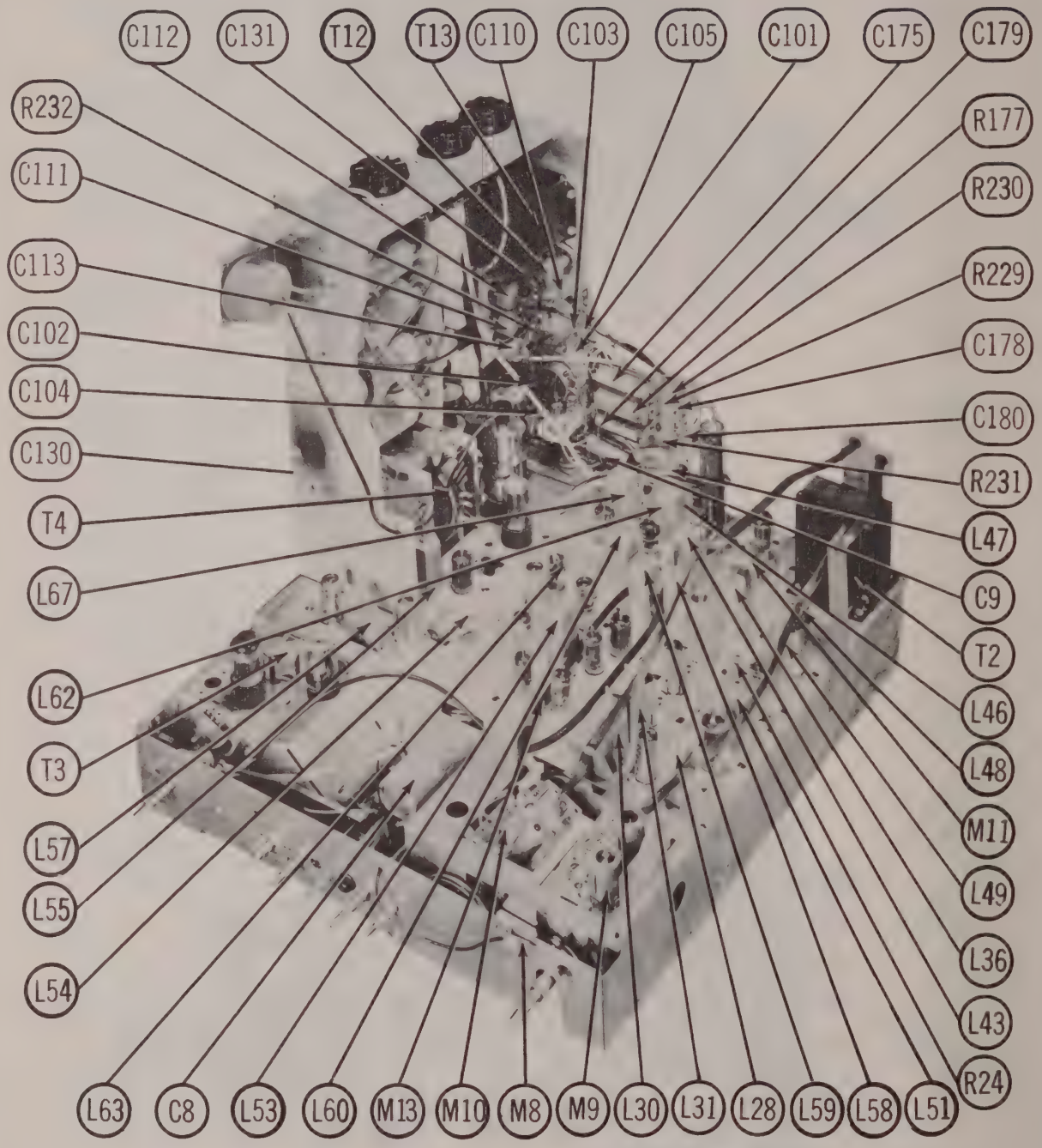




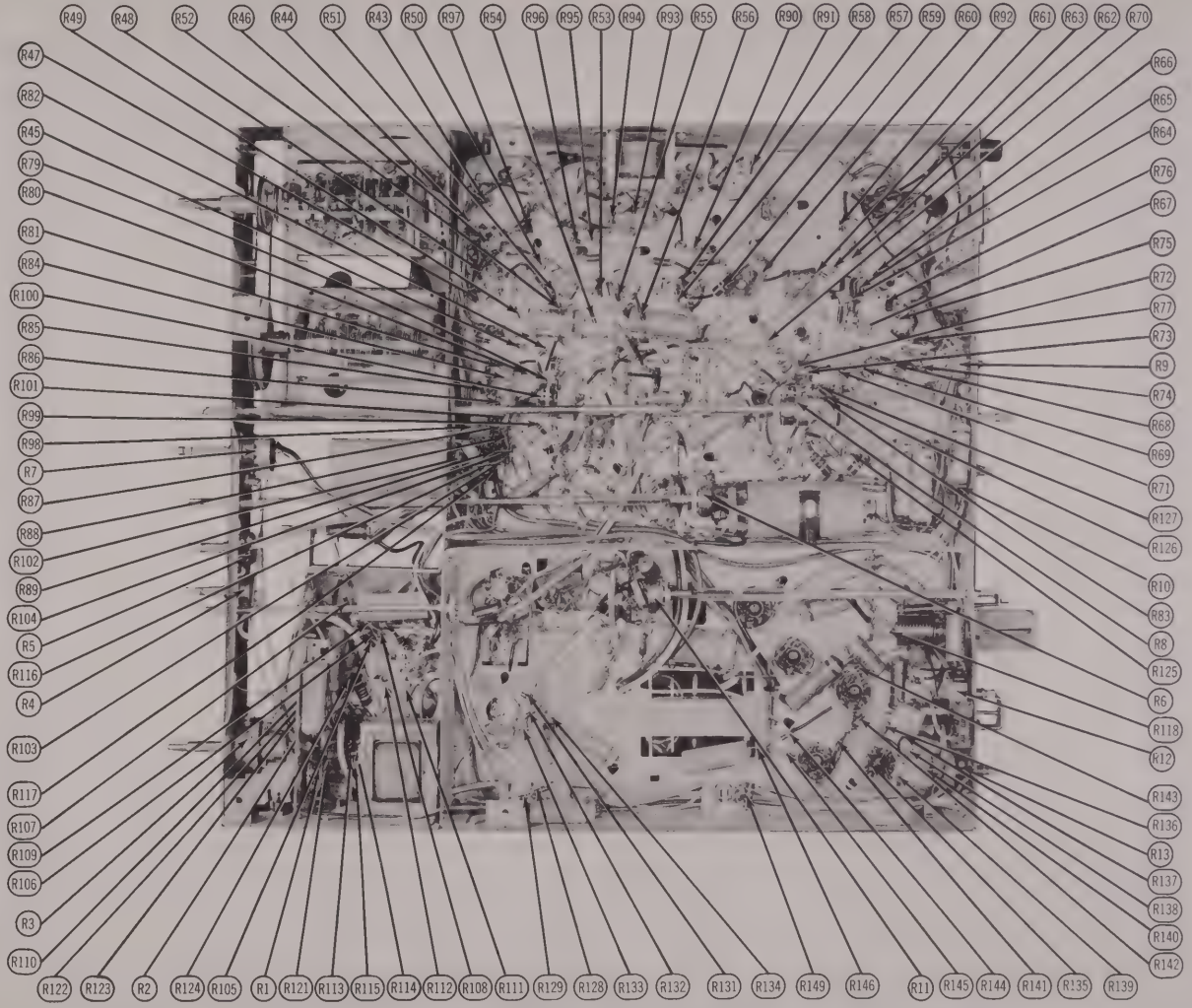
VHF TUNER-RIGHT SIDE



VHF TUNER-LEFT SIDE



CHASSIS TOP VIEW



CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION (R1 THRU R149)

SET 262 FOLDER 2

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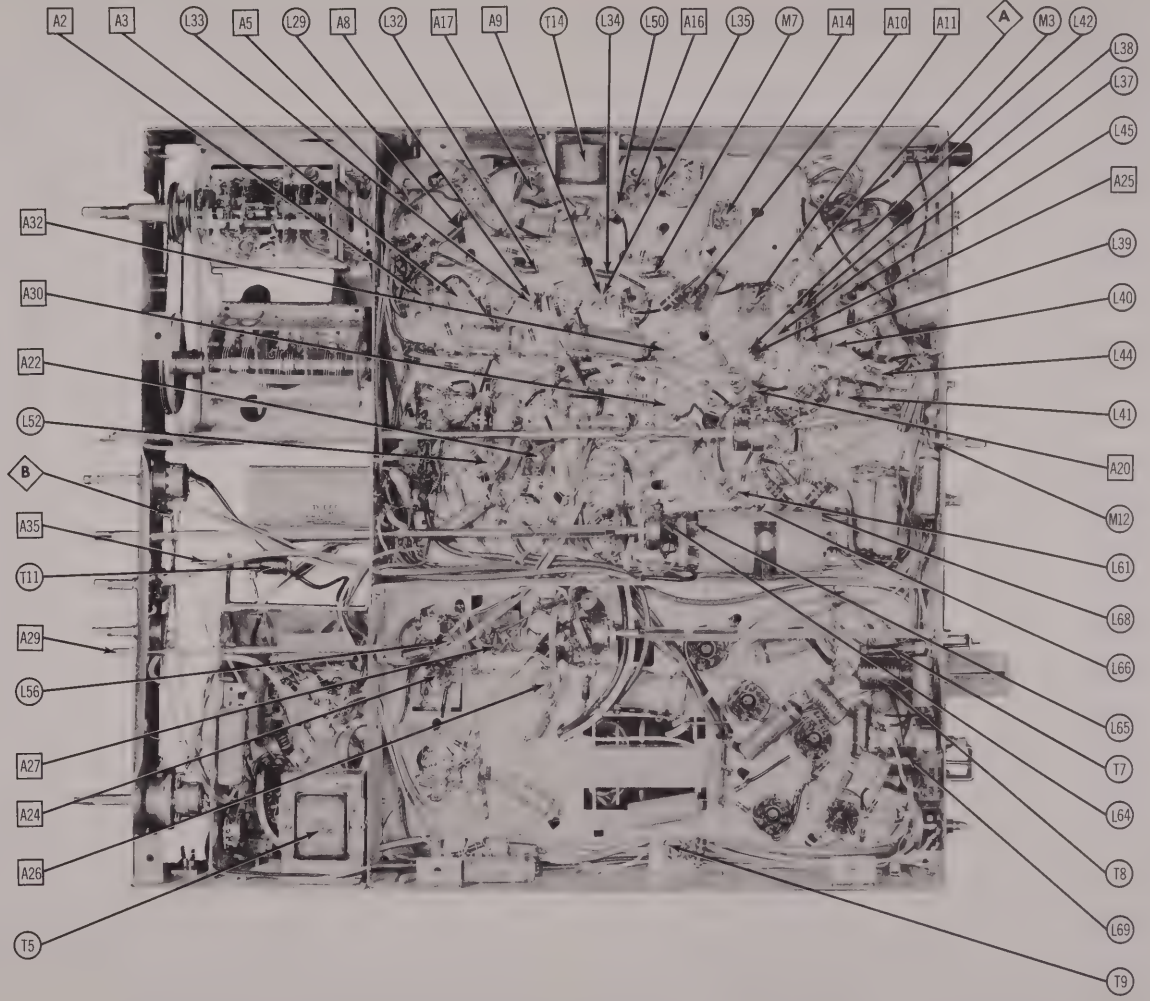
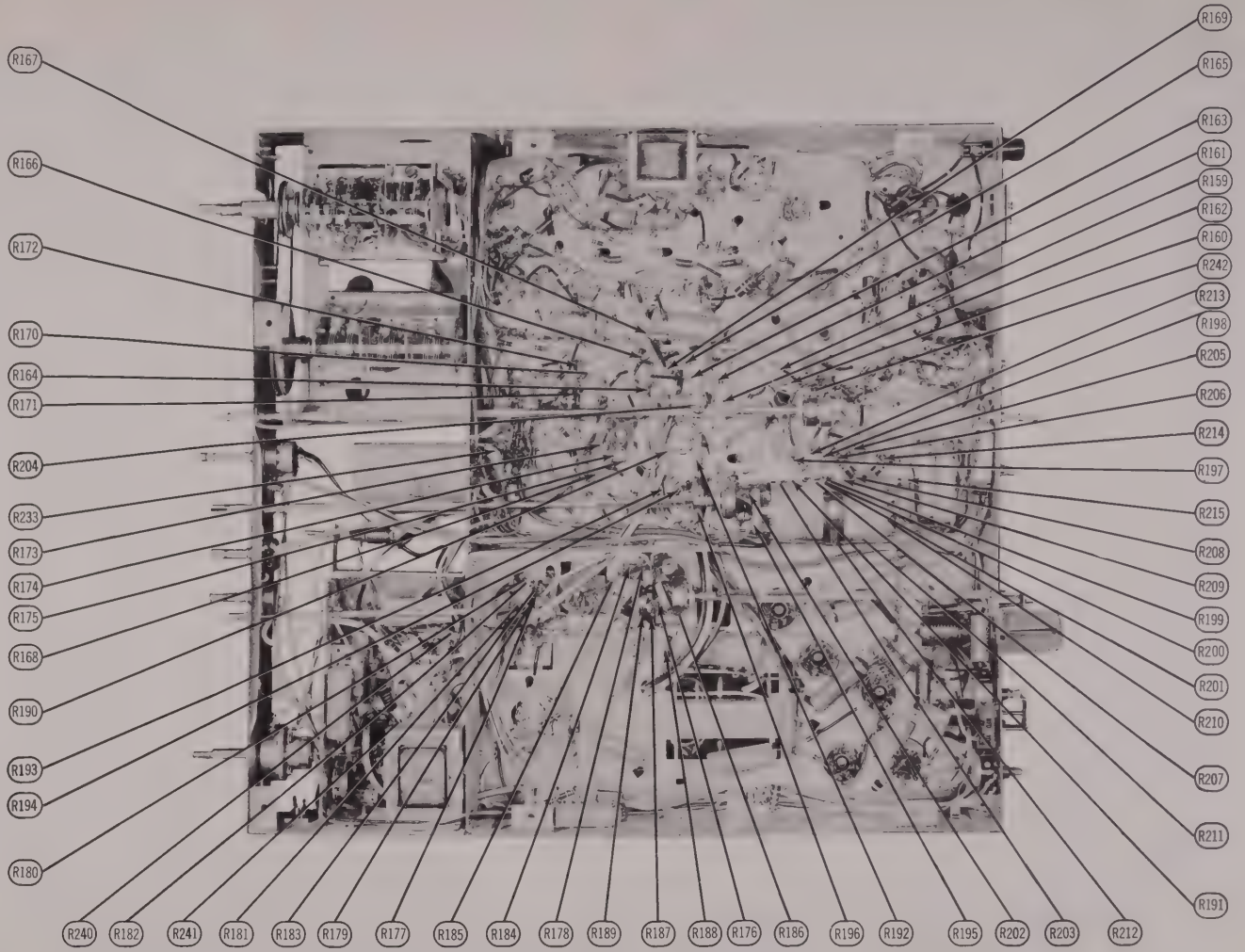
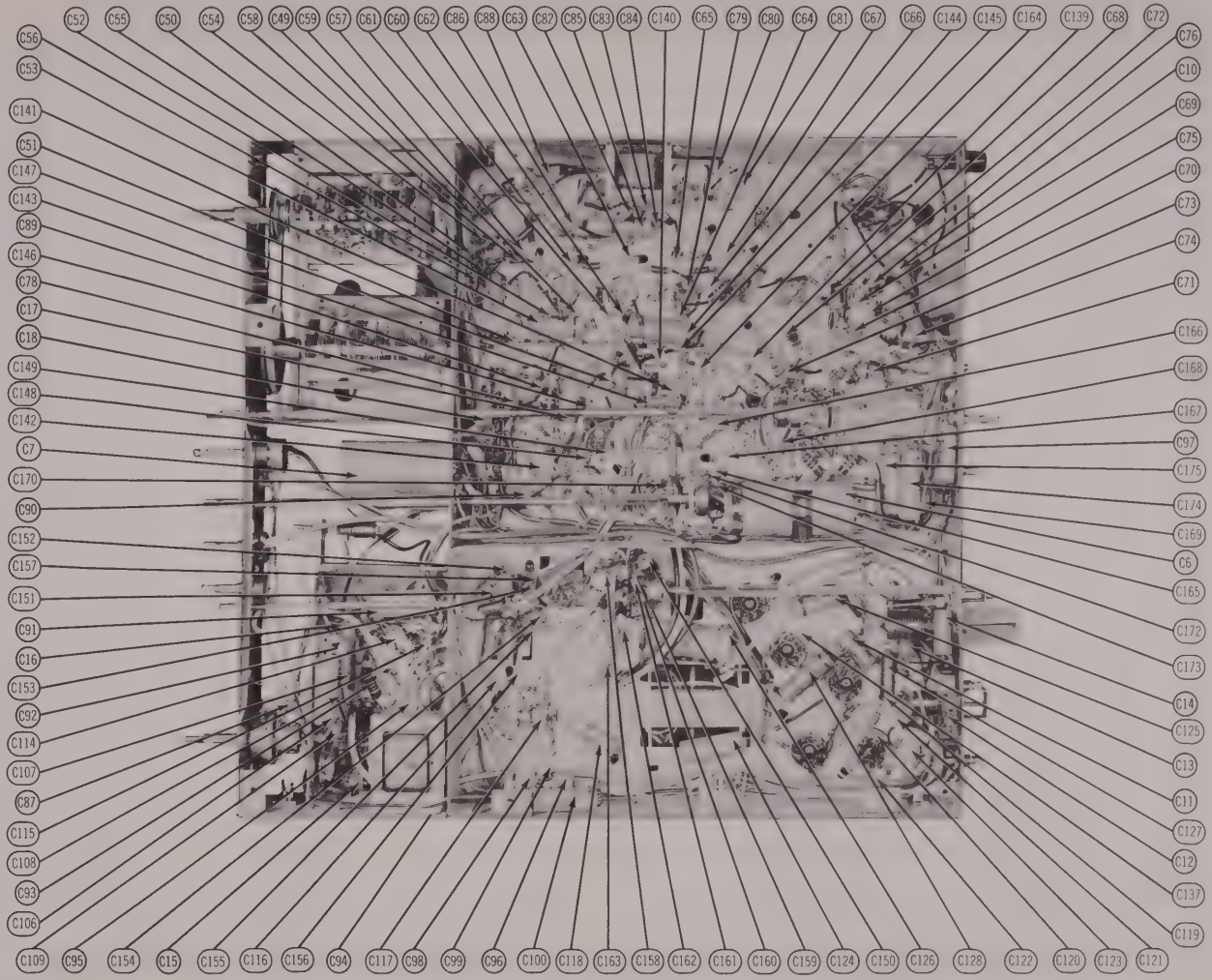


CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION

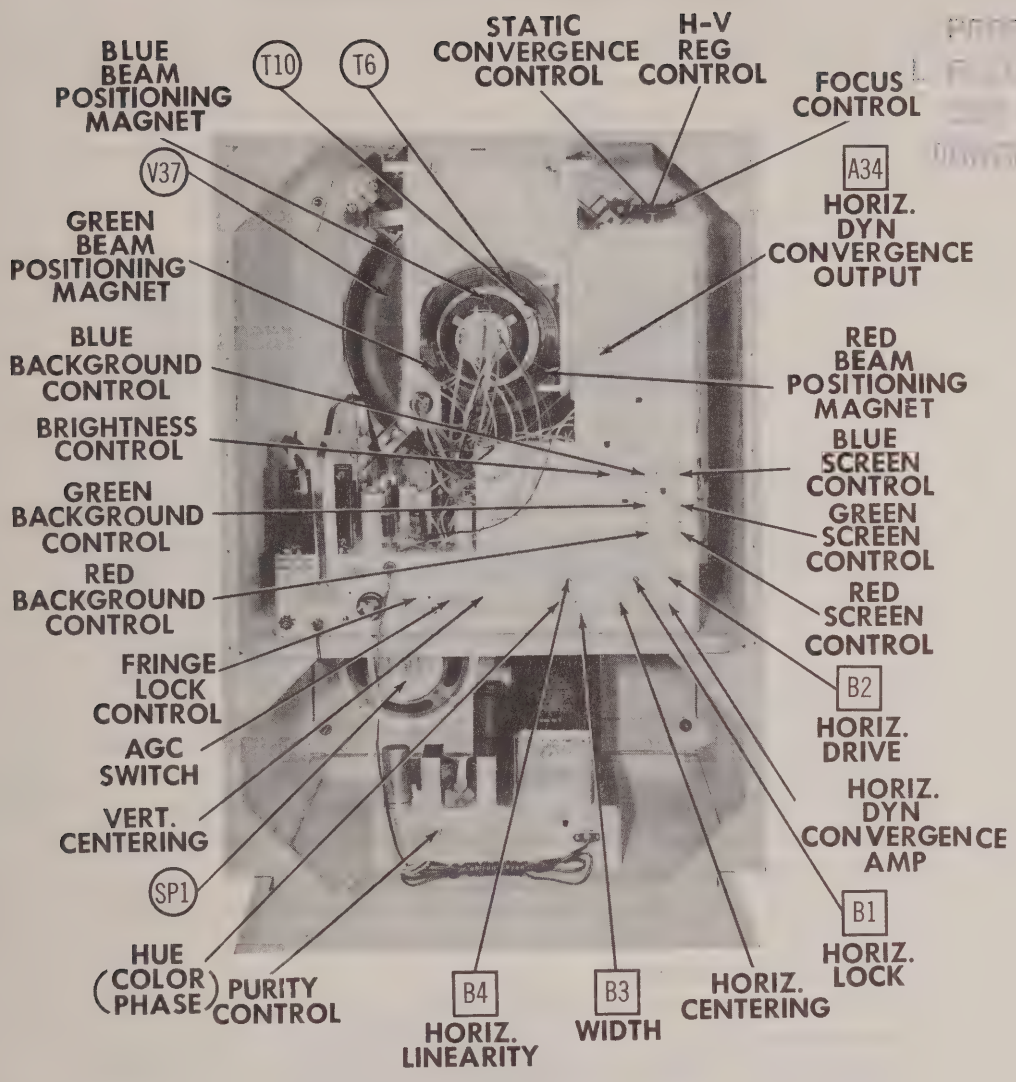


CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION (R 159—240)

SET 262 FOLDER 2



CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION



CABINET—REAR VIEW

DISASSEMBLY INSTRUCTIONS

1. Remove 9 push-on type control knobs from front of cabinet.
2. Remove 17 metal screws. Remove rear cover.
3. Disconnect picture tube socket, deflection yoke socket, focus coil plug, AC line from power supply, DC line from power supply, speaker lead and HV lead.
4. Remove 1 metal screw from ground strap between picture tube mount and chassis.
5. Remove 6 chassis mounting bolts.
6. Slide chassis part way out - Field neutralizing coil can now be unpluged from front side of apron.
7. Remove chassis from cabinet.
8. Remove 4 speaker nuts. Remove speaker.
9. Remove power supply by removing 5 chassis bolts.

MISCELLANEOUS ADJUSTMENTS

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably a test pattern.

Set the contrast control and the front and rear panel brightness controls to their mid-range positions.

Connect the probe end of a high voltage probe to the 6BD4A (V27) plate cap (raise cap slightly) and adjust the high voltage control (R22) for 19.5KV on VTVM. If the high voltage varies more than a few hundred volts when the contrast and brightness controls are varied, slightly readjust R22.

Adjust the DC focus control (R21) for best focus.

Turn the horizontal hold control fully counter clockwise and adjust the horizontal oscillator (B1) until the picture is just out of sync with 3 or 4 diagonal bars on the screen. Turn the horizontal hold control to its mid-range position. Switch off channel and back again. Picture should fall into sync. If necessary, slightly retouch B1.

Adjust the horizontal drive trimmer (B2) clockwise as far as possible without the presence of vertical white lines near the center of the raster.

Adjust the width coil slug (B3) for a picture slightly wider than necessary to fill the picture mask horizontally.

Adjust the horizontal linearity slug (B4) for a picture that is symmetrical from left to right.

COLOR PURITY ADJUSTMENT

Tune in a TV station transmitting a monochrome test pattern. (If a monochrome test pattern is not available, remove a video IF amplifier tube (V5 or V6) from its socket and set contrast control fully counter clockwise). Turn the blue and green screen and blue and green background controls (R18A, R15A, R16A and R19A) fully counter clockwise. Turn the red screen and the red background control (R20A and R17A) fully clockwise.

Alternately adjust the purity control (R25A) and rotate the purity coil (T10) for a pure red field. (If necessary, reverse polarity of purity coil plug.)

If a pure red field cannot be obtained by adjusting R25A and T10, rock the deflection yoke slightly for a position that yields better purity, then readjust R25A and T10.

Turn the red and blue control (R20A, R17A, R18A and R16A) counter clockwise. Turn green controls (R15A and R19A) clockwise and check the green field purity. Turn the red and green controls counter clockwise and turn the blue controls clockwise and check the blue field purity.

If one or more color fields are not satisfactory, a compromise setting of R25A and T10 must be reached for all three color fields.

BRIGHTNESS TRACKING ADJUSTMENTS

1. Tune in a TV station, preferably a test pattern. Turn the red, blue and green screen controls fully clockwise. Set the brightness control for a low brightness level and adjust the red, blue and green background controls for a black and gray scene. Advance one or both brightness controls. Scene should change uniformly from black and gray to black and white.

2. If some color appears turn either the blue screen or green screen controls, or both, counter clockwise and turn the blue and green background controls clockwise. These adjustments are approximate. Final adjustment should be made after convergence adjustment.

DC CONVERGENCE ADJUSTMENTS

Connect the RF output of a white dot generator across the antenna terminals.

Turn the horizontal and vertical dynamic convergence amplitude controls (R2A and R13A) fully counter clockwise.

Adjust the contrast control and brightness control until dots appear on the screen.

Adjust the DC convergence control (R23) and the DC focus control (R21) until the dots in the center of the screen converge into white dots. If the dots converge and are not white, adjust the screen and background controls as outlined under stpe 2 of "Brightness Tracking Adjustments".

Adjust the DC convergence control until the three dots form a triangle in the center of the screen (see Fig. 7). If an equilateral triangle cannot be formed in the center of the screen, the beam positioning magnets on the neck of the tube must be adjusted. Note which of the three dots requires positioning and adjust positioning magnet corresponding to that color to correct the position of that dot. The solid line indicates direction of dot movement when associated beam positioning magnet is adjusted. The dashed lines indicate direction of dot movement due to DC convergence control adjustment.

If indications are that only one dot is out of line and the associated magnet has insufficient range of adjustment remove the magnet from the neck shield and re-insert the opposite end of the magnet in the neck shield.

After obtaining the equilateral triangle, complete convergence should be obtained at the center of the raster by adjustment of the DC convergence control. Complete convergence is indicated when a single white dot with no color fringing around its edge is obtained.

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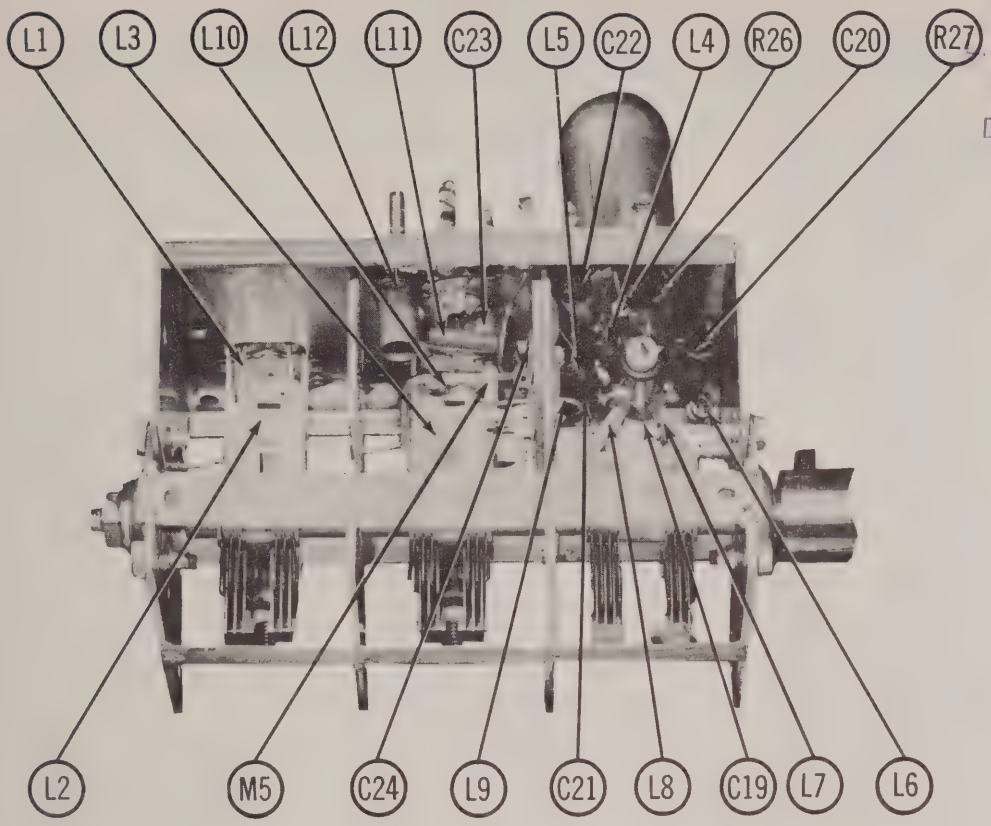
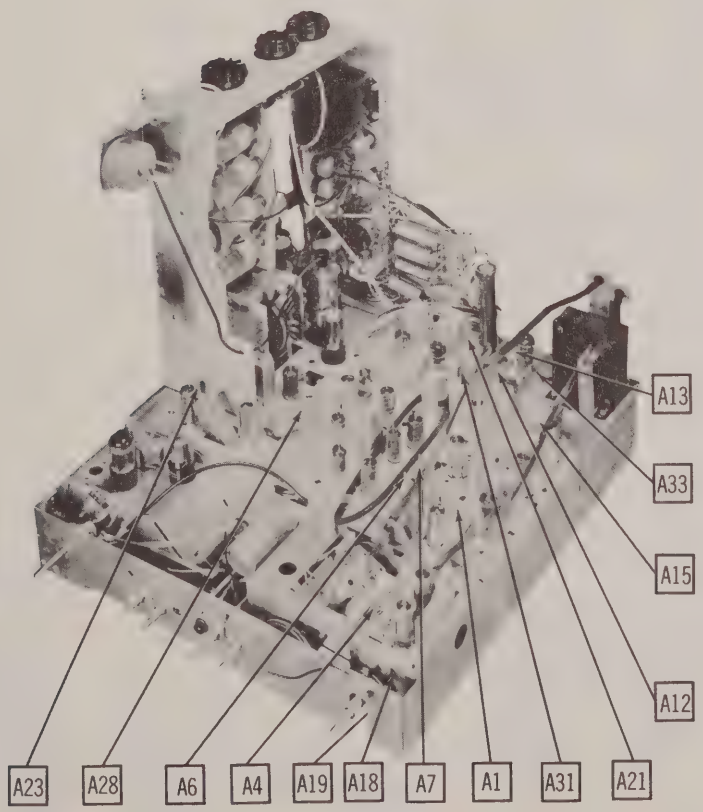


UHF TUNER-LEFT SIDE



CHASSIS TOP VIEW ALIGNMENT IDENTIFICATION

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		ARVIN PART No.	STANDARD REPLACEMENT		
V1	UHF Osc.	6AF4	6AF4	7DK	
V2	VHF RF Amp.	6BZ7	6BZ7	9AJ	
V3	VHF Mixer - Osc.	6X8	6X8	9AK	
V4	1st. Video IF Amp.	6CB6	6CB6	7CM	
V5	2nd. Video IF Amp.	6CB6	6CB6	7CM	
V6	3rd. Video IF Amp.	6CB6	6CB6	7CM	
V7	4th. Video IF Amp.	6CL6	6CL6	6CL6	
V8	1st. & 2nd. Video Amplifiers	6U8	6U8	9AE	
V9	3rd. Video Amp.	6CL6	6CL6	6CL6	
V10	AGC Keying	6AU6	6AU6	7BK	
V11	Sound IF Amp.	6AU6	6AU6	7BK	
V12	Audio Detector	6BN6	6BN6	7DF	
V13	Audio Output	6BK5	6BK5	9BQ	
V14	Sync Separator	6BY6	6BY6		
V15	Sync Phase Inv. - Vert. Osc.	6SN7GT	6SN7GT	8BD	
V16	Vert. Output - Dynamic Convergence Amplifier	6BL7GT	6BL7GT	8BD	
V17	Vert. Blanking - G-Y Matrix Amp.	12AV7	12AV7	9A	
V18	Horiz. AFC	6AL5	6AL5	6BT	
V19	Horiz. Mult.	6SN7GT	6SN7GT	8BD	
V20	Horiz. Output	6BG6GT	6BG6GT	5BT	
V21	Horiz. Output	6BG6G	6BG6G	5BT	
V22	Damper	6AU4GT	6AU4GT	4CG	
V23	Focus Rectifier	3A3GT	3A3GT		
V24	HV Rectifier	3A3GT	3A3GT		
V25	Diode Coupler	3A3GT	3A3GT		
V26	HV Double	3A3GT	3A3GT		
V27	HV Regulator	6BD4	6BD4AGT		
V28	Chroma Bandpass Amp. - Color Killer	6U8	6U8	9AE	
V29	Burst Amplifier	6AU6	6AU6	7BK	
V30	Chroma Sync Phase Detector	6AL5	6AL5	6BT	
V31	Chroma Reference Osc. Control - Chroma Reference Osc.	6U8	6U8	9AE	
V32	Quadrature Amp.	6U8	6U8	9AE	
V33	"Q" Synchronous Detector	6AS6	6AS6	7CM	
V34	"I" Synchronous Detector	6AS6	6AS6	7CM	
V35	R-Y Matrix Amp. - B-Y Matrix Amp.	12AV7	12AV7	9A	
V36	R-Y DC Restorer - G-Y DC Restorer - B-Y DC Restorer	6BJ7	6BJ7		

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA					RETMA BASE TYPE	NOTES
	ARVIN PART No.	CBS-HYTRON PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	WESTINGHOUSE PART No.		
V37	15GP22	15HP22	15GP22	15GP22			

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	ARVIN PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1	4	660VAC	A42178	P103F174		KG6040				
C2	200	300	A42334					FP331.3	TVL-3642	
C3	200	300	A42334					FP331.3	TVL-3642	
C4	80	450	A42335	AFH1-55		A051		FP149	TVL-1735	
C5A	10000		D41838-1	BPD-2X01	DD3-103	DK082	811-01	DC-511	5HK-2S1	
B	10000						811-01	DC-511		
C6A	▲50	450	E22422-16	AFH2-61		D129				
B	■40	450						FP430.95	R1336	
C	▲5	450								Note 1
D	20	25								Note 1
C7A	■40	450	E22422-7	AFH3-43		D128		FP376.8	TVL-3785	
B	▲40	450		PRS350/10				TC62	TVA-1604	
C	▲10	450								
D	10	350								
C8A	10	350	E22422-7	AFH3-43		D128		FP447	TVL-3785	
B	■40	450		PRS350/10					TVA-1604	
C	▲10	450								
D	▲40	450								
C9	10	350	A41429	PRS350/10		BR1045		TC62	TVA-1604	
C10	5	450	A40841	PRS450/4		BR445		TC70	TVA-1702	
C11	1	50	A42320	SRE50/2		BBR1-50T		TC31	TVA-1300	
C12	25	25	A42321	PRS25/25		BR252		TC26	TVA-1205	
C13	25	25	A42321	PRS25/25		BR252		TC26	TVA-1205	
C14	25	25	A42321	PRS25/25		BR252		TC26	TVA-1205	
C15	5	250	A40002	PRS250/4		BR425		TC50X	TVA-1501	
C16	10	350	A41429	PRS350/10		BR1045		TC62	TVA-1604	
C17	2	50	A41534	PRS150/4		BBR2-50T		TC302	TVA-1301	
C18	2	50	A41534	PRS150/4		BBR2-50T		TC302	TVA-1301	
C19	3									
C20	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C21	.5									
C22	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C23	33									
C24	82			SI82	D6-820	G040	GP1K-820		5GA-Q82	
C25	22			SI22NP0	TCZ-22	TZ14	NP0K-220	ZT-5422	5TCC-Q22	
C26	47			SI47	D6-470	TP29	GP1K-470	UC-5447	5GA-Q47	

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PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA ARVIN PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C27	.39									
C28	800			BPD-0008	DD-801	K069	801-001	DC-521	5HK-D1	
C29	470			BPD-00047	D6-471	K060		UC-5347	5GA-T47	
C30	800			BPD-0008	DD-801	K069	801-001	DC-521	5HK-D1	
C31	.33									
C32	.39									
C33	47			SI47	D6-470	TP29	GP1K-470	UC-5447	5GA-Q47	
C34	2									
C35	1.6									
C36	1000			EF-001	MFT-1000				503C-D1	
C37	1500			BPD-0015	DD-152	K071	801-0015	DC-5215	5HK-D15	
C38	.75									
C39	1.5									
C40	10			SI10NP0	TCZ-10	TZ09	NP0K-100	ZT-541	5TCC-Q1	
C41	1.5			SI1.5NP0	TCZ-1.5	TZ04	NP0K-1R5	ZT-5515	5TCCB-V15	
C42	1500			BPD-0015	DD-152	K071	801-0015	DC-5215	5HK-D15	
C43	800			BPD-0008	DD-801	K069	801-001	DC-521	5HK-D1	
C44	1500			BPD-0015	DD-152	K071	801-0015	DC-5215	5HK-D15	
C45	800			BPD-0008	DD-801	K069	801-001	DC-521	5HK-D1	
C46	10			SI10NP0	TCZ-10	TZ09	NP0K-100	ZT-541	5TCC-Q1	
C47	120									
C48	1500			BPD-0015	DD-152	K071	801-0015	DC-5215	5HK-D15	
C49	4700			BPD-0047	DD-502	K079	811-005	DC-525	5HK-D47	
C50	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C51	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C52	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C53	.22	200		P488-22		CUB4P22		PT4022	4TM-P22	
C54	4.3									
C55	2.7		D41077-1							
C56	560			SI560	D6-561	G063	GP2K-561	UC-5356	5GA-T56	
C57	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C58	91			SI5IN750	TCN-51	N035	N750K-510			
C59	560			SI560	D6-561	G063	GP2K-561	UC-5356	5GA-T56	
C60	560			SI560	D6-561	G063	GP2K- 561	UC-5356	5GA-T56	
C61	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C62	560			SI560	D6-561	G063	GP2K-561	UC-5356	5GA-T56	
C63	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C64	4700			BPD-0047	DD-502	K079	811-005	DC-525	5HK-D47	
C65	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C66	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C67	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C68	.1	400		P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C69	3.3			SI3.3NP0	TCZ-3.3	Z008	NP0K-3R3	ZT-5533	5TCCB-V33	
C70	39		D41457-390	SI39NP0	TCZ-39	Z031	NP0K-390	ZT-5439	5TCC-Q39	
C71	.047	200		P288-047	DF-503	CUB2S47		PT4147	2TM-S47	
C72	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C73	120			SI120N750	TCN-120	N044	N750L-121			
C74	.047	600		P688-047	DF-503	CUB6S47		PT6147	6TM-S47	
C75	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C76	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C77	560	1000			DD30-561				10GA-T56	
C78	4700			BPD-0047	DD-502	K079	811-005	DC-525	5HK-D47	
C79	2									
C80	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C81	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C82	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C83	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C84	4700			BPD-0047	DD-502	K079	811-005	DC-525	5HK-D47	
C85	.22	400		P488-22		CUB4P22		PT4022	4TM-P22	
C86	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C87	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C88	10000	1000			DD10-103				10HK-S1	
C89	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C90	.1	200		P288-1	DF-104	CUB2P1		PT401	2TM-P1	
C91	.47	200		P288-47		CUB2P47		PT4047	2TM-P47	
C92A	.002							PT622		
B	.005			♦PA-110	♦PC-100	♦115TM1	♦1405-01	PT625	♦V-1	
C	.005							PT625		
C93	.0047	600		1464-005		1R5D47		MCE465	MS-25	
C94	.068	1000		P1088-068		PM10S68				
C95	.22	600		685-25		CUB6P22		PT6022	6TM-P25	
C96	.1	600		P688-1	DF-104	CUB6P1		PT601	6TM-P1	
C97	.047	600		P688-047	DF-503	CUB6S47		PT6147	6TM-S47	
C98	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C99	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C100	.1	600		P688-1	DF-104	CUB6P1		PT601	6TM-P1	
C101	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C102	560			SI560	D6-561	G063	GP2K-561	UC-5356	5GA-T56	
C103	560			SI560	D6-561	G063	GP2K-561	UC-5356	5GA-T56	
C104	560			SI560	D6-561	G063	GP2K-561	UC-5356	5GA-T56	
C105	560			SI560	D6-561	G063	GP2K-561	UC-5356	5GA-T56	
C106	.22	400		P488-22		CUB4P22		PT4022	4TM-P22	
C107	.0047	400		P688-0047	D6-472	CUB6D47	GP2-333-472	PT6247	6TM-D47	
C108	.0033	600		P688-0033	D6-332	CUB6D33	GP2-333-332	PT6233	6TM-D33	
C109	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C110	.22	600		684-25		CUB6P25		PT6022	6TM-P25	
C111	1000	10000	A42368							
C112	1000	10000	A42368							
C113	500	20000	A42994	HV20C	TV3-502	MMU20T5	413	HV20035A	20DK-T5	
C114	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C115	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C116	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C117	4700			BPD-0047	DD-502	K079	811-005	DC-525	5HK-D47	
C118	.047	600		P688-047	DF-503	CUB6S47		PT6147	6TM-S47	
C119	100	500		1469-0001		22R5T1		MCB235	MS-31	
C120	330	500		1469-00035		5R5T33				
C121	3900	500		1464-004		1R5D39		MCE463	MS-24	
C122	330	500		1469-00035		5R5 T33				
C123	270	500		1469-0003		5R5T27		MCB241	MS-33	
C124	.22	400		P488-22		CUB4P22		PT4022	4TM-P22	
C125	,068	600		P688-068		CUB6S68		PT6168	6TM-S68	
C126	.5	600		684-5		CUB6P5		PT605	6TM-P5	
C127	.022	1000		P1088-022		CUB16S22		PT16122	MB-S22	
C128	.08	600								
C129	500	20000	A24994	HV20C	TV3-502	MMU20T5	413	HV20035A	20DK-T5	

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING CAP	RATING VOLT	REPLACEMENT DATA ARVIN PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C130	1000	10000	A42308							
C131	10000	6000	A42370							
C132	1200	15000	A42367							
C133	1200	15000	A42367							
C134	2000	30000	A42366							
C135	500	30000	A42369				416			
C136	1200	15000	A42367							
C137	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C138	240	5000	A40538-2							
C139	180	500		1469-0002		22R5T18		MCB237	MB-32	
C140	10000			BPD-01	DD-103	K082	811-01	DC-541	5HK-S1	
C141	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C142	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C143	.047	300		P288-047	DF-305	CUB2S47		PT4047	2TM-D47	
C144	.47	200		P288-47		CUB2P47		PT4047	2TM-P47	
C145	4700	1000								
C146	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C147	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C148	3000			1464-002		MC8457		MCB457	MB-32	
C149	3000			1464-002		MC8457		MCB457	MB-32	
C150	.1	200		P288-1	DF-104	CUB2P1		PT401	2TM-P1	
C151	1000			1464-001		MC8255		MCB255	MB-31	
C152	250			1469-00025		22R5T25		MCB240		
C153	500			BPD-0005	DS-501	22R5Q5	GP2K-501	UC-525	5GA-T5	
C154	30	500		1469-00001		22R5Q1		MCB215	MB-41	
C155	39			E39NP0	TC2-39	Z031	NP0K-390	Z7-5439	5TCC-Q39	
C156	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C157	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C158	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C159	10000			BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C160	33	500				22R5Q33				
C161	240	500		1469-00025		22R5T25		MCB240		
C162	100	500		1469-0001		22R5T1		MCB235	MB-31	
C163	15	500								
C164	22			S22N750	TCN-22	TN06	N750K-220		5TCU-Q22	
C165	47			S47N750	TCN-47	TN14	N750K-470	NT-5447	5TCU-Q47	
C166	23	400		P488-22		CUB4P22		PT4022	47M-P22	
C167	27									
C168	27									
C169	.22	400		P488-22		CUB4P22		PT4022	47M-P22	
C170	1000			BPD-001	DD-103	K069	801-001	DC-521	5HK-D1	
C171	2.3									
C172	100			S1100N750	TCN-100		N750L-101	NT-531	5TCU-T1	
C173	.22	400		P488-22		CUB4P22		PT4022	47M-P22	
C174	.22	400		P488-22		CUB4P22		PT4022	47M-P22	
C175	.22	400		P488-22		CUB4P22		PT4022	47M-P22	
C176	.47	600		684-5		CUB6P5		PT605	6TM-P5	
C177	.47	600		684-5		CUB6P5		PT605	6TM-P5	
C178	100			S1100N750	TCN-100		N750L-101	NT-531	5TCU-T1	
C179	.47	600		684-5		CUB6P5		PT605	6TM-P5	
C180	100			S1100N750	TCN-100		N750L-101	NT-531	5TCU-T1	

Note 1. C8C and C8D are not used.
♦ Items C82A, C82B, C82C, R110A, R110B, R110C are combined in one unit.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ARVIN PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	5 Meg	½	P2264-78	Q11-141	A47-5Meg-S	AB-57	SU-57	Vert. dynamic convergence shape.
B	8 Shaft		Not Req.	RQ	FKS-1/4	AK-1	Not Req.	Attach to R1A.
R2A	10KΩ	½	E22464-77	Q11-116	A47-10K-S	AB-54	SU-30	Vert. dynamic convergence amplitude
B	Shaft		Not Req.	RQ	FKS-1/4	AK-1	Not Req.	Attach to R2A
R3A	1500Ω	4	E22464-76					Brightness-Panel wire wound
B	1 Meg	½						Volume & switch tapped at 500KΩ
R4A	1 Meg	½	E22464-75	Q11-138	A47-1Meg-S	AB-59	U-54	Vert. Hold
B	Shaft		Not Req.	Not Req.	KBS-2	AK-4	Not Req.	Attach to R4A
R5A	40KΩ	½	E22464-71	Q11-123	A47-40K-S	AK-51	U-35	Horiz. Hold
B	Shaft		Not Req.	Not Req.	KBS-2	AK-4	Not Req.	Attach to R5A
R6A	3000Ω	½	E22464-73	Q11-113	A47-3000-S	T-8	U-6	Chroma
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R6A
R7A	500Ω	½	E22464-69			F1-19	UF53L	Vert. Linearity-Panel
B	2.5 Meg	½				RS-76	UR250L	Height-Rear
R8A	500Ω	½	E22464-74	Q11-103				Chroma-Panel
B	3000Ω	½		M11-13				Contrast-Rear
R9A	7.5 Meg	½	E22464-57	Q11-143	A47-7.5Meg-S	AB-89	U-82	Fringe lock
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R9A
R10	20Ω	2	E22464-88	W30X15		MT20PK	WT-9	Vert. centering Wire wound tapped at 10Ω
R11A	100KΩ	½	E22464-72	Q11-128	A47-100K-S	H-60	U-41	Hue
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R11A
R12	20Ω	2	E22464-88	W30X15		MT20PK	WT-9	Horiz. centering wire wound tapped at 10Ω
R13A	100Ω	2	E22464-79	W-100		A43-100		R100L Horiz. dynamic convergence amplitude.
B	Shaft		Not Req.	Not Req.	FKS-1/4		Not Req.	Attach to R13A
R14A	1000Ω	4	E22464-82	4W8-1000	A10-1000	SVP-993	M1MP	Brightness wire wound
B	Shaft		Not Req.	Not Req.	FKS-1/4	Not Req.	Not Req.	Attach to R14A
R15A	1 Meg	½	E22464-83	Q11-127	A47-1Meg-S	AB-59	U-54	Blue background
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R15A
R16A	1 Meg	½	E22464-83	Q11-127	A47-1Meg-S	AB-59	U-54	Green background
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R16A
R17A	1 Meg	½	E22464-83	Q11-137	A47-1Meg-S	AB-59	U-54	Red background
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R17A
R18A	7.5 Meg	½	E22464-57	Q11-143	A47-7.5Meg-S	AB-89	U-82	Blue screen
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R18A
R19A	7.5 Meg	½	E22464-57	Q11-143	A47-7.5Meg-S	AB-89	U-82	Green screen
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R19A
R20A	7.5 Meg	½	E22464-57	Q11-143	A47-7.5Meg-S	AB-89	U-82	Red screen
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R20A
R21	2.5 Meg	½	E22464-85					Focus

CONTROLS (cont)

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA ARVIN PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	INSTALLATION NOTES
R22	2.5 Meg	½	E22464-85					High voltage control
R23	15 Meg	½	E22464-86					D. C. Convergence
R24	500Ω	1	A40538		39-500			Burn wire wound
R35A	20Ω	2	E22464-87	W-20	A43-20		R30L	Purity wire wound
B	8 Shaft		Not Req.	Not Req.	FKS-1/4		Not Req.	Attach to R35A

RESISTORS

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA ARVIN PART No.	IRC PART No.	NOTES
R26	15KΩ	½		BTB-15K	
R27	2200Ω	½		BTA-2200	
R28	100KΩ	½		BTB-100K	
R29	15KΩ	½		BTB-15K	
R30	3300Ω	½		BTB-3300	
R31	1Meg 5%	½		BTB-1Meg 5%	
R32	750KΩ 5%	½		BTB-750K 5%	
R33	1000Ω	½		BTB-1000	
R34	3900Ω	½		BTB-3900	
R35	470Ω	½		BTB-470	
R36	4700Ω	½		BTB-4700	
R37	220Ω	½		BTB-220	
R38	230KΩ	½		BTB-230K	
R39	2200Ω	½		BTB-2200	
R40	1000Ω	½		BTB-1000	
R41	68KΩ	½		BTB-68K	
R42	1000Ω	½		BTB-1000	
R43	6800Ω 5%	½		BTB-6800 5%	
R44	1000Ω	½		BTB-1000	
R45	47Ω 5%	½		BTB-47 5%	
R46	1000Ω	½		BTB-1000	
R47	1000Ω	½		BTB-1000	
R48	1000Ω	½		BTB-1000	
R49	1000Ω	½		BTB-1000	
R50	39KΩ	½		BTB-39K	
R51	47Ω 5%	½		BTB-47 5%	
R52	1000Ω	½		BTB-1000	
R53	6800Ω 5%	½		BTB-6800 5%	
R54	1000Ω	½		BTB-1000	
R55	47Ω 5%	½		BTB-47 5%	
R56	1000Ω	½		BTB-1000	
R57	5600Ω	½		BTB-5600	
R58	150Ω	½		BTB-150	
R59	12KΩ	½		BTB-12K	
R60	1000Ω	2		BTB-1000	
R61	1000Ω	2		BTB-1000	
R62	12000Ω 5%	2		BTB-12000 5%	
R63	2700Ω	½		BTB-2700	
R64	180KΩ	½		BTB-180K	
R65	39KΩ	½		BTB-39K	
R66	4700Ω	½		BTB-4700	
R67	5600Ω	½		BTB-5600	
R68	2700Ω	½		BTB-2700	
R69	1Meg	½		BTB-1Meg	
R70	330Ω	½		BTA-330	
R71	33KΩ	½		BTB-33K	
R72	2200Ω	½		BTB-2200	
R73	3300Ω	½		BTA-3300	
R74	13000Ω 5%	½		BTB-1300 5%	
R75	470KΩ	½		BTB-470K	
R76	56Ω	1			
R77	22KΩ	½		BTA-22K	
R78	3000Ω	5		PWT-3000	
R79	27KΩ	½		BTB-27K	
R80	180KΩ 5%	½		BTB-180K 5%	
R81	12KΩ	½		BTB-12K	
R82	47KΩ	½		BTB-47K	
R83	10KΩ	½		BTB-10K	
R84	82KΩ 5%	½		BTB-82K 5%	
R85	12KΩ 5%	½		BTB-12K 5%	
R86	56KΩ 5%	½		BTB-56K 5%	
R87	22KΩ 5%	½		BTB-22K 5%	
R88	47KΩ 5%	½		BTB-47K 5%	
R89	39KΩ 5%	½		BTB-39K 5%	
R90	470KΩ	½		BTA-470K	
R91	68Ω	½		BTB-68	
R92	1000Ω	½		BTB-1000	
R93	6800Ω	½		BTB-6800	
R94	680Ω 5%	½		BTB-680 5%	
R95	330KΩ	½		BTB-330K	
R96	47KΩ	½		BTB-47K	
R97	180Ω	1		BTA-180	
R98	2000Ω	5		PWT-2000	
R99	470KΩ	½		BTB-470K	
R100	47KΩ	½		BTB-47K	
R101	1.5Meg	½		BTB-1.5Meg	
R102	33KΩ	½		BTB-33K	
R103	390KΩ	½		BTB-390K	
R104	150KΩ	½		BTB-150K	
R105	47KΩ	½		BTB-47K	
R106	1000Ω 5%	½		BTB-1000 5%	
R107	4700Ω 5%	½		BTB-4700 5%	
R108	820Ω 5%	½		BTB-820 5%	
R109	1200Ω	½		BTB-1200	
R110A	22KΩ	♦		BTB-22K	
B	8200Ω	♦		BTB-8200	
C	8200Ω	♦		BTB-8200	
R111	470KΩ	½		BTB-470K	
R112	1.5Meg	½		BTB-1.5Meg	
R113	2.2Meg	½		BTB-2.2Meg	
R114	100Ω	½		BTB-100	
R115	12KΩ	½		BTB-12K	
R116	1000Ω	1		BTA-1000	

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA ARVIN PART No.	IRC PART No.	NOTES
R117	1000Ω	1		BTA-1000	
R118	47KΩ	½		BTB-47K	
R119	1000Ω	1		BTB-1000	
R120	1000Ω	1		BTB-1000	
R121	100KΩ	½		BTB-100K	
R122	100KΩ	1		BTB-100K	
R123	3.3Meg	½		BTB-3.3Meg	
R124	1000Ω	2		BTB-1000	
R125	3.9Meg	½		BTB-3.9Meg	
R126	100KΩ 5%	½		BTB-100 5%	
R127	100KΩ 5%	½		BTB-100 5%	
R128	220KΩ	½		BTB-220K	
R129	220KΩ	½		BTB-220K	
R130	2.2Meg	½		BTB-2.2Meg	
R131	100KΩ	½		BTB-100K	
R132	100KΩ	½		BTB-100K	
R133	4.7Meg	½		BTB-4.7Meg	
R134	1Meg	½		BTB-1Meg	
R135	1200Ω	1		BTB-1200	
R136	8200Ω	1		BTA-8200	
R137	61KΩ 5%	½		BTB-91K 5%	
R138	120KΩ	½		BTB-120K	
R139	8200Ω	1		BTB-8200	
R140	470KΩ	½		BTB-470K	
R141	68Ω	½		BTB-68	
R142	68Ω	½		BTB-68	
R143	180Ω	½			
R144	68Ω	½		BTB-68	
R145	68Ω	½		BTB-68	
R146	5600Ω 5%	4			
R147	68Ω 5%	1			
R148	68Ω 5%	1			
R149	4.7Ω	1			
R150	2.2Ω	1			
R151	100KΩ	2		BTB-100K	
R153	6.3Meg 5%	3		BTB-6.3Meg 5%	
R153	100KΩ	½		BTB-100K	
R154	2.2Ω	1			
R155	3.9Ω	1			
R156	2.2Ω	1			
R157	68Meg	2	A43400		
R158	1.8Meg 5%	2		BTB-1.8Meg 5%	
R159	180Ω	½		BTB-180	
R160	180Ω	½		BTB-180	
R161	120KΩ	½		BTB-120K	
R162	27KΩ	½		BTB-27K	
R163	18000	½		BTB-1800	
R164	56KΩ	½		BTB-56K	
R165	100Ω	½			
R166	47KΩ	½		BTB-47K	
R167	22KΩ	2		BTB-22K	
R168	4.7Meg	½		BTB-4.7Meg	
R169	100Meg	½	C20061-107		
R170	220Ω	2		BTB-220	
R171	12KΩ	½		BTB-12K	
R172	220KΩ	½		BTB-220K	
R173	2200Ω	1		BTA-2200	
R174	560KΩ	½		BTB-560K	
R175	560KΩ	½		BTB-560K	
R176	100KΩ	½		BTB-100K	
R177	100KΩ	½		BTB-100K	
R178	56KΩ	½		BTB-56K	
R179	22KΩ	½		BTB-22K	
R180	270Ω	½		BTB-270	
R181	22KΩ	½		BTB-22K	
R182	220KΩ	½		BTB-220K	
R183	10KΩ	½		BTA-10K	
R184	2200Ω	1		BTA-2200	
R185	56KΩ	½		BTB-56K	
R186	270Ω	½		BTB-270	
R187	100KΩ	½		BTB-100K	
R188	220Ω 5%	½		BTB-220 5%	
R189	27KΩ	2		BTB-27K	
R190	180Ω	½		BTB-180	
R191	150Ω	½		BTB-150	
R192	75000Ω 5%	2		BTB-75000 5%	
R193	180Ω	½		BTB-180	
R194	150Ω	½		BTB-150	
R195	24KΩ 5%	2		BTB-24K 5%	
R196	6800Ω	2		BTB-6800	
R197	56KΩ	½		BTB-56K	
R198	10Ω	½			
R199	1Meg	½		BTB-1Meg	
R200	680Ω	½		BTB-680	
R201	1200Ω	½		BTB-1200	
R202	330KΩ	½		BTA-330K	
R203	1Meg	½		BTB-1Meg	
R204	1000Ω	½		BTB-1000	
R205	1600 5%	1			
R206	2700Ω	2		BTB-2700	
R207	100Ω	½			

RESISTORS (cont)

ITEM No	RATING OHMS	RATING WATT	REPLACEMENT DATA ARVIN PART No	IRC PART No	NOTES
R209	2200 5%	1		BTA-2200 5%	
R209	6800Ω	2		BTB-6800	
R210	5600Ω	½		BTB-5600	
R211	100Ω	½			
R212	33KΩ	½		BTB-33K	
R213	47KΩ 5%	½		BTB-47K	
R214	2700Ω	2		BTB-2700	
R215	20KΩ 5%	2		BTB-20K 5%	
R216	1Meg	½		BTB-1Meg	
R217	1Meg	½		BTB-1Meg	
R218	1Meg	½		BTB-1Meg	
R219	1Meg	½		BTB-1Meg	
R220	1Meg	½		BTB-1Meg	
R221	1Meg	½		BTB-1Meg	
R222	1Meg	½		BTB-1Meg	
R223	1Meg	½		BTB-1Meg	
R224	1Meg	½		BTB-1Meg	
R225	22KΩ	½		BTB-22K	
R226	56KΩ	½		BTB-56K	

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA ARVIN PART No.	IRC PART No.	NOTES
R227	12KΩ 5%	½		BTB-12K 5%	
R228	22KΩ	½		BTB-22K	
R229	56KΩ	½		BTB-56K	
R230	12KΩ 5%	½		BTB-12K 5%	
R231	22KΩ	½		BTB-22K	
R232	22Meg	2		BTB-22Meg	
R233	3000Ω	5		PWT-3000	
R234A	400Ω	25			
B	700Ω	10	A42456		
C	1000Ω	10			
R235	120KΩ	2		BTB-120K	
R236	22Ω	2	C20302-220		
R237	3Ω	5	A42182		
R238	220KΩ	½		BTB-220K	
R239	55Meg	½	A42400		
R240	22Ω	1			
R241	1.5Meg	1		BTB 1.5Meg	
R242	8200Ω	1		BTB-8200	

♦ Items R110A, R110B, R110C, C82A, C82B, C82C are combined in one unit.

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	REPLACEMENT DATA ARVIN PART No	Stancor PART No	Merit PART No	Triad PART No.	RCA TYPE No.	Halldorson PART No	Thordarson PART No
T1	117VAC 2.2 60~	680VAC TAP a 225VAC 330ADC		E42176						

TRANSFORMER (FILAMENT)

ITEM No	RATING PRI.	RATING SEC. 1	RATING SEC. 2	RATING SEC. 3	REPLACEMENT DATA ARVIN PART No	Stancor PART No	Merit PART No	Triad PART No	Halldorson PART No	Thordarson PART No
T2	117VAC 2.1A 60~	12.6VCT @ 3A	6.3VAC @ 3A	6.3VAC 2.5A	A42309					
B										

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No	USE	ARVDH PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	RCA TYPE No.	Halldorson PART No.	Thordarson PART No.
T3	Vert. osc. trans.	C41745-1	A-8135	A-3003	A-97X	30P71 ①	B6703	24A87 ①
T4	Horiz. output trans.	A42246				26GT1		
T5	Vert. output trans.	A42242	A-8544②	A-3038②	A-96X ③	26GT1	Z1602 ③	28S53 ③
T6A	Yoke (66°)-Horiz. (11MH) Vert. (100MH)	A42305				23DD1		
B		④						
T7	Horiz. Lin Coil (.12-.82MH)	A42246						
		⑤						
T8	Width Coil (55-80MH)	A42245		MWC-3①		21GR1		MC-19 ①
T9	Horiz AFC pulse trans. (PRI.-TMH-Sec. -3MH)	C41051						
T10	Purity Coil	A42243 ④				23ED1④		
T11	Horiz. dynamic convergence	A42247	WC-5 ⑤	MWC-1 ⑤	WC-11 ⑤	21GR1	RF800 ⑤	WC-15 ⑤
	Phase coil (5.5-35MH)		⑥		⑥		⑥	⑥
T12	Horiz. dynamic convergence	A42246				24GT1		
	Output trans.							
T13	Vert. dynamic convergence	A42249				24GT1		
	Output trans.							

① Drill one new mounting hole.
② Drill new mounting holes.
③ Two windings, bifilar.
④ Includes beam positioning magnets & neck shield assembly.
⑤ Enlarge mounting hole.
⑥ Connect to coded blue & red terms
⑦ Connect to coded #1 & #2.
⑧ Connect to coded #3 & #4.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI	IMPEDANCE SEC	ARVIN PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	NOTES
T14	5.2KΩ	3.8Ω	C24778-5	A-3823	A-3019	S-5X	Z1002	26S49	

SPEAKER

ITEM No.	RATINGS SIZE	RATINGS FIELD	RATINGS V. C. IMP.	REPLACEMENT DATA ARVIN PART No.	JENSEN PART No.	QUAM PART No.	NOTES
SP1	8"	PM	3.8Ω	D24725	ST-115 Mod. P8-Y	8A31	

COILS (RF-IF)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA ARVIN PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L1	UHF Ant. coil Primary	0Ω						
L2	UHF Ant. coil Secondary	0Ω						
L3	UHF RF coil	0Ω						
L4	Fil. choke	0Ω						

ARVIN MODEL 15-55KB-UHF

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (cont)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	ARVIN PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L5	Fil. choke	0Ω						
L6	UHF RF choke	0Ω						
L7	UHF osc. coil	0Ω						
L8	UHF osc. coil	0Ω						
L9	UHF osc. coupling coil	0Ω						
L10	UHF mixer coil	0Ω						
L11	Trap coil	1.4Ω						
L12	UHF IF Output coil	.1Ω						
L13	UHF IF coil	0Ω						
L14	UHF IF coil	.3Ω						
L15	VHF ant. coil	0Ω						
L16	VHF ant. coils	0Ω						
L17	VHF ant. coil	0Ω						Channel 13 position
L18	Neut. coil	0Ω						
L19	VHF RF coil	0Ω						Channel 13 position
L20	VHF RF coils	0Ω						
L21	VHF mixer Grid coil	0Ω						Channel 13 position
L22	VHF mixer Grid coils	0Ω						
L23	VHF osc. coil	0Ω						Channel 6 position
L24	VHF osc. coil	0Ω						Channel 13 position
L25	VHF osc. coils	0Ω						
L26	Fil. choke	0Ω						
L27	Conv. plate	.1Ω						
L28	1st Video IF Grid	0Ω		C41175	17-4503†♦		6216†♦	Includes trap
L29	Fil. choke	0Ω		A23095	19-3001	TV-189	6175	.6 Microhenries
L30	1st Video IF Plate	.1Ω		D41171			6217	Includes trap, 4700Ω resistor, 100MMF, 13MMF & 2.7MMF caps.
L31	2nd Video IF Grid	.1Ω		D41172			6218	Includes trap & 12MMF cap.
L32	Fil. choke	0Ω		A23095	19-3001	TV-189	6175	.6 Microhenries
L33	3rd Video IF	.2Ω	.2Ω	D41173	20-1045		6219	
L34	Fil. choke	0Ω		A23095	19-3001	TV-189	6175	.6 Microhenries
L35	4th Video IF	.2Ω	.2Ω	D41173	17-4523		6219	
L36	5th Video IF			AQ42311-1				
L37	Series peaking Coil	3.9Ω		D25468-18	19-3093♦	TV-181♦	6177♦	93 Microhenries; Wound on 6.8KΩ resistor
L38	Shunt peaking Coil	10Ω		D25468-15	19-3500	TV-188	6174	500 Microhenries
L39	Shunt peaking Coil	11Ω						450 Microhenries
L40	Series peaking Coil	7Ω		D25468-26	19-3180*	TV-184*	6154*	190 Microhenries; Wound on 3.3KΩ resistor
L41	Shunt peaking Coil	7.5Ω		D25468-27	19-3250■	TV-185■	6154■	215 Microhenries; Wound on 2.2KΩ resistor
L42	4.5MC trap	0Ω		AD42317-1	20-1004	TV-151	1469	
L43	3.58MC take-off	2.4Ω	2.4Ω	AD42257-1				
L44	Shunt peaking Coil	1.6Ω		AD42240-5	19-6022		6152	18 Microhenries
L45	3.58MC trap	0Ω		AD42317-1			1469	
L46	Series peaking coil	6Ω		D25468-28	19-3180▲	TV-184▲	6180▲	170 Microhenries; Wound on 12KΩ resistor
L47	Shunt peaking Coil	7Ω		D25468-24	19-3180	TV-184	6154	200 Microhenries
L48	1st sound IF	1.3Ω		C25543	17-1031	TV-113†	1470-A1	
L49	2nd sound IF	4.8Ω	2.9Ω	D41177	17-1021▲	TV-108	1466	
L50	Cathode choke	3.9Ω			19-3093	TV-181	6177	
L51	Quad. coil	4.6Ω		D40937		TV-113††	1470-A♦	
L52	RF choke	25Ω					4664	1.5 Microhenries
L53	3.58MC Bandpass	3.9Ω	1.4ΩCT	AQ42337-1				
L54	Burst. amp. Trans.	4Ω	.5Ω	AD42258-1				
L55	3.58MC Quadrature Coil	1.7Ω		AD42253-1				
L56	3.58MC Osc. Coil	11Ω			19-3100		6153	110 Microhenries
L57	Quadrature Trans.	1.7Ω	2.6Ω	AD42259-1				
L58	3.58MC Band pass coil	3Ω		AD42260-1				Includes 4.5MC trap.
L59	3.58MC Band pass coil	1.9Ω		AD42255-1				
L60	"Q" Bandpass coil	27Ω		AD42254-1	19-6834▲	BC-503▲	4666	2.1 Microhenries
L61	"Q" Bandpass coil	35Ω		AD42240-3				2.1 Microhenries
L62	3.58MC trap	1Ω		AD42263-1				310 Microhenries
L63	Delay filter	33ΩCT		AD42261-1				
L64	Delay filter	4.8Ω		AD42240-4	19-3125		6153	128 Microhenries
L65	"T" Bandpass coil	18Ω		AD42240-1			4651	800 Microhenries
L66	"T" Bandpass coil	18Ω		AD42240-1			4651	800 Microhenries
L67	3.58MC trap	13Ω		AD42256-1				500 Microhenries

PARTS LIST AND DESCRIPTIONS (Continued)

PROPERTY OF
L. F. BLANKENSHIP
3824 MEADE ST.
DENVER, COLORADO

COILS (cont)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA ARVIN PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L68	Shunt peaking coil	16Ω		AD42240-2	19-3660		4642	750 Microhenries
L69	Horiz. osc.	58Ω		C23449	19-1576	TV-163	6210	

* Parallel with 3. 3KΩ resistor.
■ Parallel with 2. 2KΩ resistor.
▲ Parallel with 12KΩ resistor.
† Use one winding only
● Drill mounting hole.
♦ Parallel with 6. 8KΩ resistor.
†† Use one winding only and use adaptor plate.
# Use adaptor plate
¶ Add 15MMF cap. externally.
†♦ Add 5MMF cap. externally and shunt with 22KΩ resistor.

FILTER CHOKE

ITEM No.	RATINGS TOTAL DIRECT CURRENT	RATINGS D. C. RESISTANCE	RATINGS INDUCTANCE (0 CURRENT 1000 ∿)	REPLACEMENT DATA ARVIN PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.
L70	. 27A	43. 5Ω	1. 87Ω	C22561-5	C-2325	C-2996	C-17X ①	C-5037	26C44①
L71	. 27A	43. 5Ω	1. 87Ω	C22561-5	C-2325	C-2996	C-17X ①	C-5037	26C44①

① Drill one new mounting hole.

SELENIUM RECTIFIER

ITEM No.	RATING CURRENT	REPLACEMENT DATA ARVIN PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	SELETRON PART No.	NOTES
M1	. 550A	C42177	1319A	9RS700SL		609		
M2	. 550A	C42177	1319A	9RS700SL		609		

FUSES

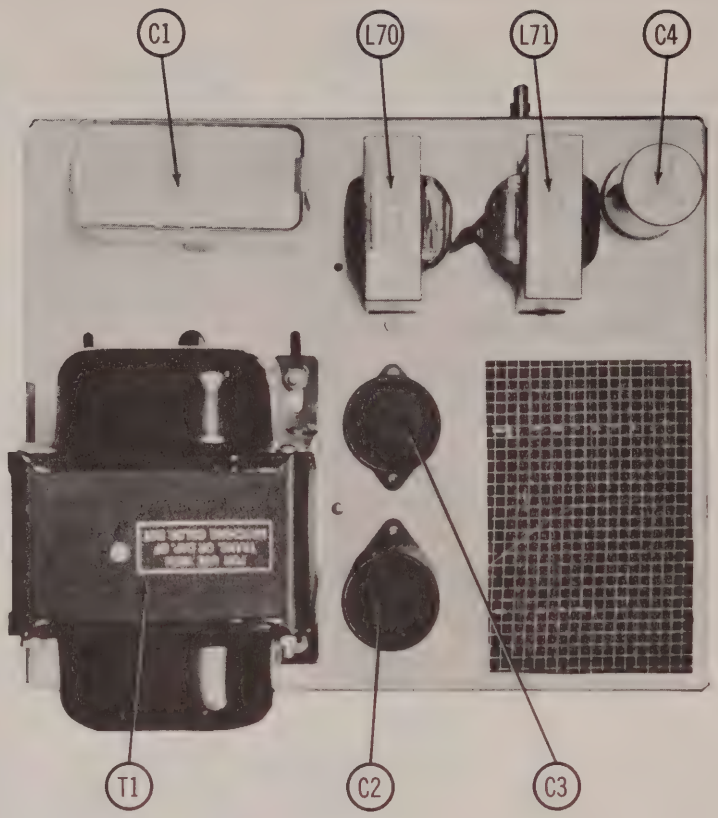
ITEM No.	TYPE	RATING	REPLACEMENT DATA ARVIN PART No. FUSE	ARVIN PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	BUSS PART No. FUSE	BUSS PART No. HOLDER
M3	3AG S/B	5A 125V	A42397	A42379	313005 (5A-3AG-S/B)	342001	MDX5	HKP
M4	3AG S/B	1/4A 125V	A42493	A42494	313. 250 (1/4A-3AG-S/B)	357001	MDL 1/4	4405

CRYSTAL DIODES

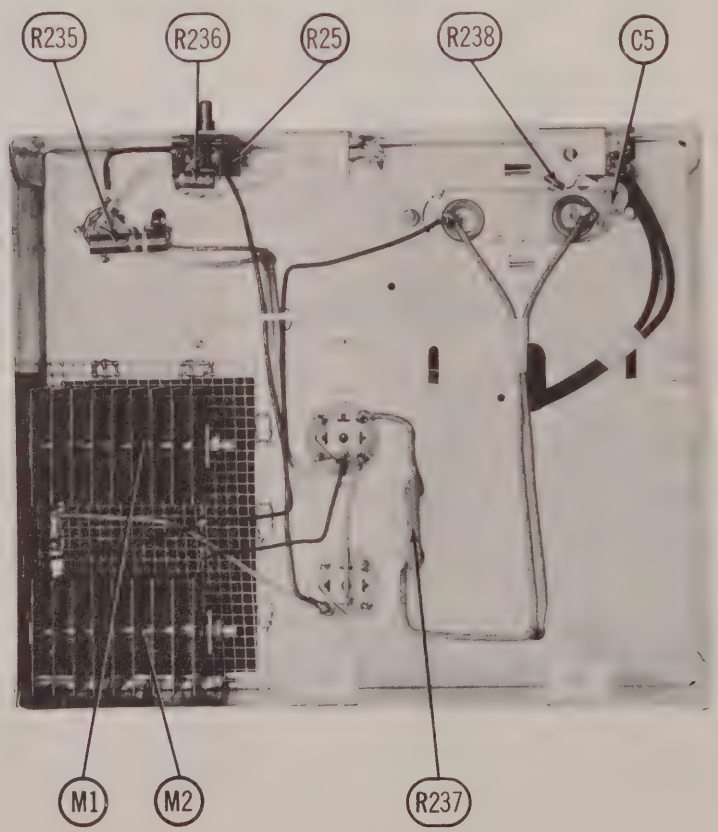
ITEM No.	ORIG. TYPE	REPLACEMENT DATA ARVIN PART No.	SYLVANIA PART No.	FEDERAL PART No.	NOTES
M5	1N82		1N82 or 1N82A	1N72A	UHF Mixer
M6	1N64		1N60 or 1N132	1N60 or 1N64A	Video Det.
M7	1N64	A42398	1N60 or 1N132	1N60 or 1N64A	Sound Det.

MISCELLANEOUS

ITEM No.	PART NAME	ARVIN PART No.	NOTES
M8	Dial light		#47, Bayonet
M9	Tuner	E41737-2	VHF
M10	Tuner	E41738	UHF
M11	Video Det. Ass'y.	AD42312-1	Includes M6, Resistors, Capacitors & Coils
M12	Switch	A41039	Local-Distant-Suburban
M13	Delay Line	D42323	1Micro. Sec., Luminance Channel
B2	Trimmer cap.		Horiz. Drive (40-370MMF)
	Cabinet	R42299	Blonde
	Mask	E41882	
	Safety Glass	A41998	



POWER SUPPLY CHASSIS-TOP VIEW



POWER SUPPLY CHASSIS-BOTTOM VIEW

PROPERTY OF
L. I. BLANKENSHIP
3724 MEADE ST.
DENVER, COLORADO

MISCELLANEOUS ADJUSTMENTS (cont.)

DYNAMIC CONVERGENCE ADJUSTMENTS

Leave the white dot generator connected as under "DC Convergence Adjustments".

While making dynamic convergence adjustments, frequently vary the DC convergence control to obtain best convergence on various parts of the screen.

Connect the high side of the vertical amplifier of scope to the insulated portion of the lead that is connected to pin 13 (dynamic convergence anode) of the picture tube. Connect low side to chassis.

Adjust A34 for maximum amplitude response similar to Fig. 8. Remove scope.

Adjust the vertical dynamic convergence amplitude control (R2A) for equal dot displacement from top to bottom of vertical line of dots in center of screen. Readjust the focus control (R21). If equal dot displacement cannot be obtained by adjustment of R2A, adjust the vertical dynamic convergence shape control (R1A) to obtain the most uniform dot displacement. Readjust the DC convergence control (R23) for best convergence of the vertical center line of dots. Keep the dots in focus by frequent adjustment of the focus control.

It may be necessary to slightly readjust R1A and R2A to obtain optimum top-to-bottom convergence.

Adjust the horizontal dynamic convergence amplitude control (R13A) for equal dot displacement from left to right along the horizontal center line. Adjust the horizontal dynamic phase coil slug (A35) for the most uniform dot displacement. If necessary, slightly readjust R13A. Readjust the DC convergence control (R23) for the best convergence of the horizontal center line of dots. If necessary, readjust focus control.

Slightly retouch A35 and R13A to obtain best side to side convergence.

The entire picture area should now be properly converged. Misconvergence of any particular area that can be corrected by readjusting the DC convergence control indicates that the dynamic convergence adjustments are not at optimum setting.

Repeat steps 1 and 2 under "Brightness Tracking Adjustments".

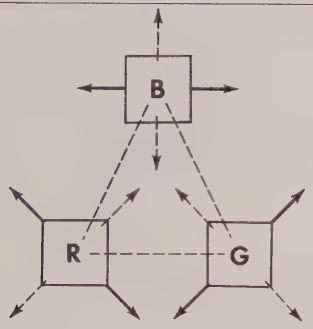
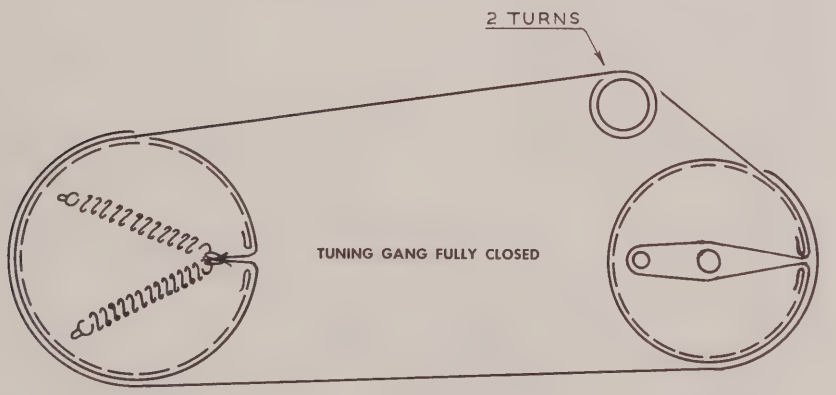
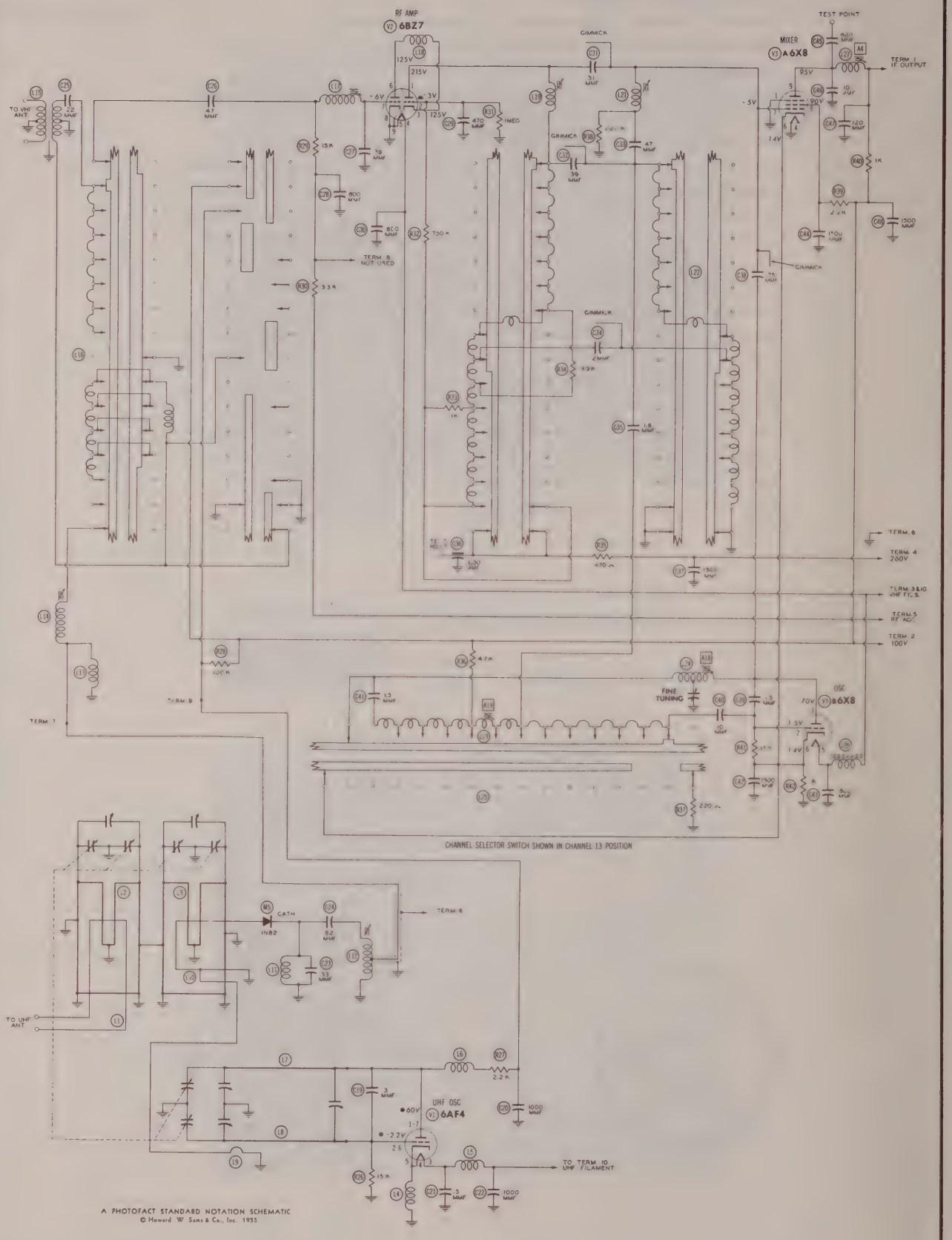


FIG. 7

FIG. 8

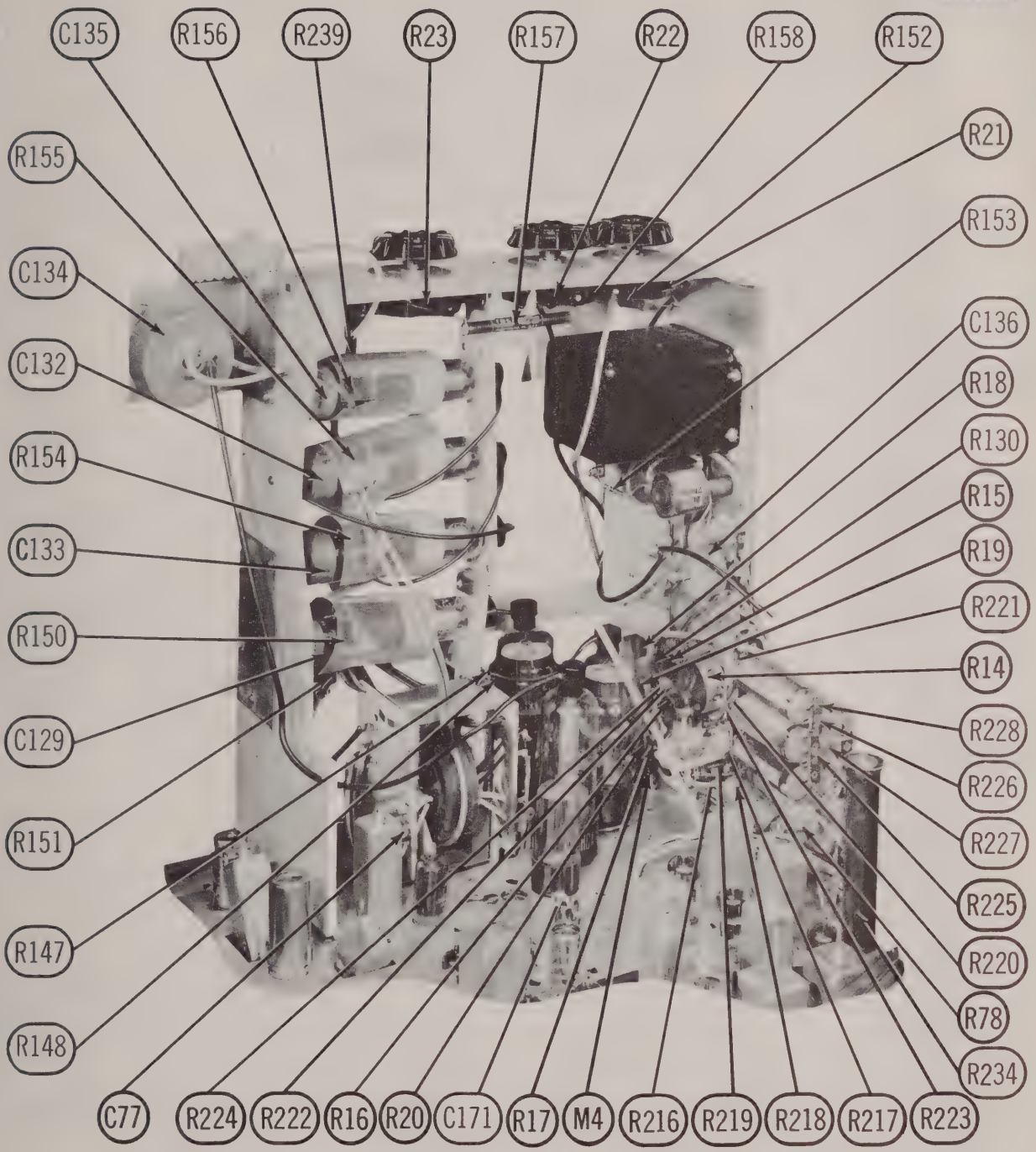


UHF DRIVE CORD STRINGING



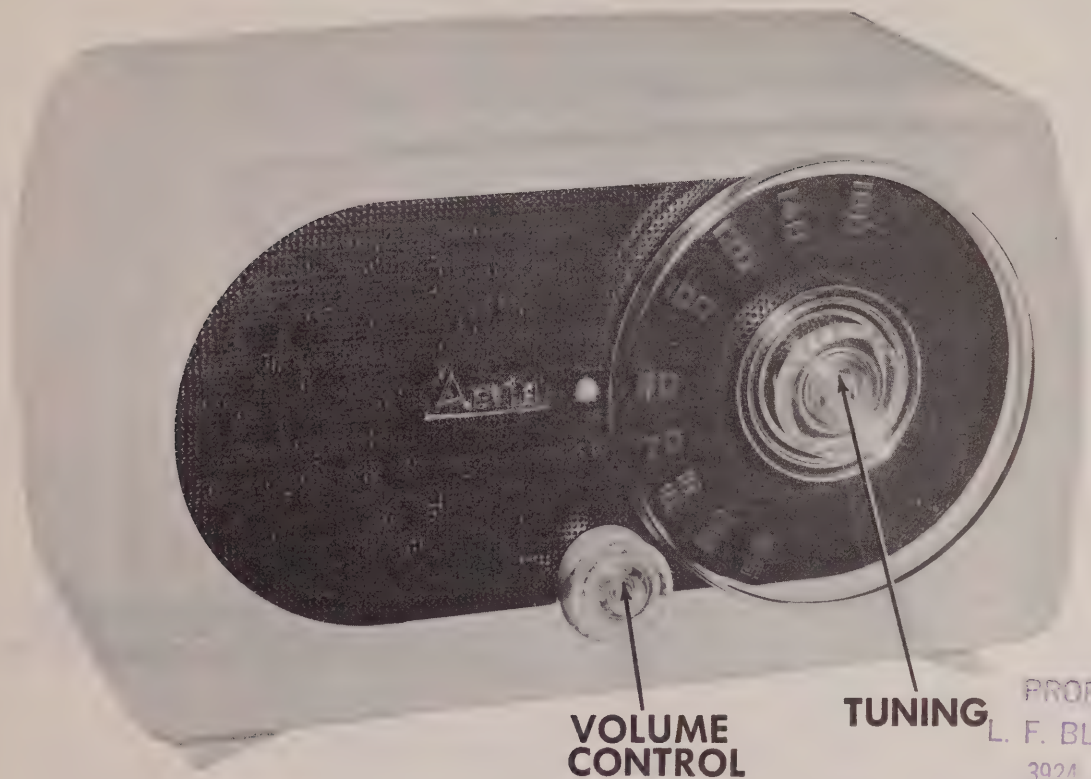
TUNER SCHEMATIC

PROPERTY OF
L. F. BLANKENSHI
3021 MEADE ST.
DENVER, COLORADO



HIGH VOLTAGE COMPARTMENT

ARVIN MODELS
850T, 853T (Ch. RE375)



PROPERTY OF
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DENVER, COLORADO

ARVIN MODELS
850T, 853T (Ch. RE375)

TRADE NAME	Arvin Model 850T, 853T (Ch. RE375)
MANUFACTURER	Arvin Industries, Columbus, Ohio
TYPE SET	AC-DC Operated AM Superheterodyne Receiver
TUBES (Five)	Types 12BE6 Conv., 12BA6 IF Amp., 12AV6 Det-AVC-AF Amp., 50C5 Output, 35W4 Rectifier
POWER SUPPLY	110-120 Volts AC-DC
RATING	.25 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	540KC - 1650KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Loop should be maintained in same relative position to chassis as when receiver in cabinet.
To set pointer, turn tuning capacitor fully closed and set pointer to last reference mark at low frequency end of dial.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1MFD	High side to pin 7 (grid) of 12BE6 (V1). Low side to chassis.	455KC (400∿ Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .001MFD to reduce hum modulation.
2	"	"	1650KC	"	"	A5	"
3		Loop	1400KC	Tune to 1400KC signal.	"	A6	Fashion loop of several turns of wire and radiate signal into loop or receiver. Adjust for maximum output.
4		"	600KC	Tune to 600KC signal.	"		Bend antenna rotor plates for maximum output. Repeat step 3.

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PARTS LIST AND DESCRIPTIONS

ARVIN
MODEL 850T (Ch. 375)

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		ARVIN PART No.	STANDARD REPLACEMENT		
V1	Converter	12BE6	12BE6	7CH	
V2	IF Amp.	12BA6	12BA6	7BK	
V3	Det-AVC-AF Amp.	12AV6	12AV6	7BT	
V4	Output	50C5	50C5	7CV	
V5	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	ARVIN PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	■50	150	40736	AFH3-77		C056		FP311	TVL-3425	
B	▲30	150								
C	20	25								
C2	.05	200	25455-503	P288-05	DF-503	PJ2S5		PT415	2TM-St	
C3	100	500	20065-101	1468-0001		5W5T1		MC235	MS-31	
C4	10000		22295	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C5A	5000									
B	250		♦25264	♦PA-112-1	♦PC-70	♦112TM1	♦1406-01		♦T-3	
C										
C6	2000		40053-203	BPD-002	DD-202	K072	801-002	DC-522	5HK-D2	
C7	.02	200	25455-203	P288-02	DF-203	PJ2S2		PT412	2TM-S2	
C8	.05	400	25462-503	P488-05	DF-503	CUB4S5		PT415	4TM-S5	
C9	1000		23078	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	

♦ Items C5A, C5B, C5C, R7A and R7B are combined in one unit.
When replacing items individually, items C5B and C5C total 250MMF.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	ARVIN PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1	500KΩ	½	C42005					Volume and switch.

RESISTORS

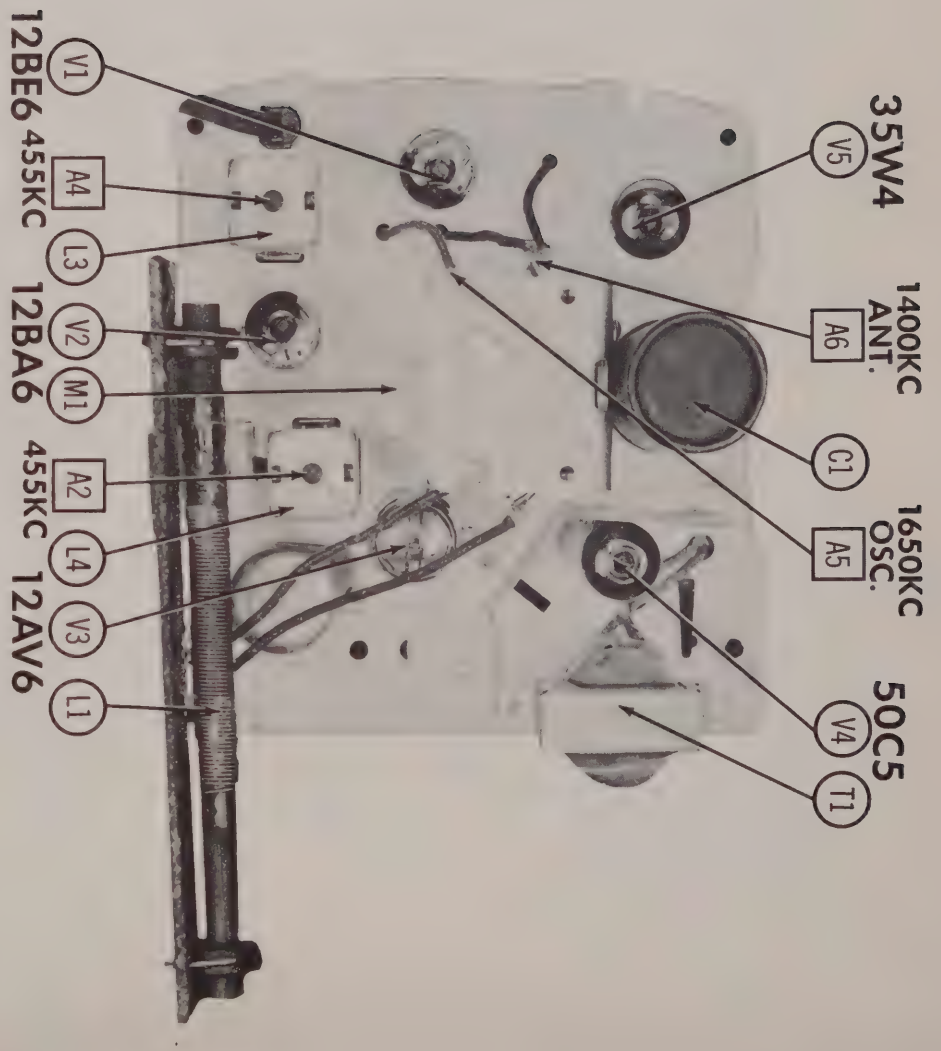
ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	ARVIN PART No.	IRC PART No.	
R2	22KΩ	½	20061-223	BTS-22K	
R3	68KΩ	½	20061-683	BTS-68K	
R4	68Ω	½	20061-680	BTS-68	
R5	2.2Meg	½	20061-225	BTS-2.2Meg	
R6	10Meg	½	20061-106	BTS-10Meg	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	ARVIN PART No.	IRC PART No.	
R7A	500KΩ	½	♦25264	BTS-500K	
B	500KΩ	½		BTS-500K	
R8	120Ω	½	22381-121	BTS-120	
R9	1200Ω	1	20061-334	BTA-1200	
R10	330KΩ	½	20061-683	BTS-330K	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	ARVIN PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	
T1	2.4KΩ	3.1Ω	41213-1	A-3332	A-3025	S-12X	Z1101	24S50 ①	① Drill one new mounting hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	ARVIN PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4"	PM	3.1Ω	22875	ST-113 Mod. P4-X	4A07	

COILS (RF-IF)

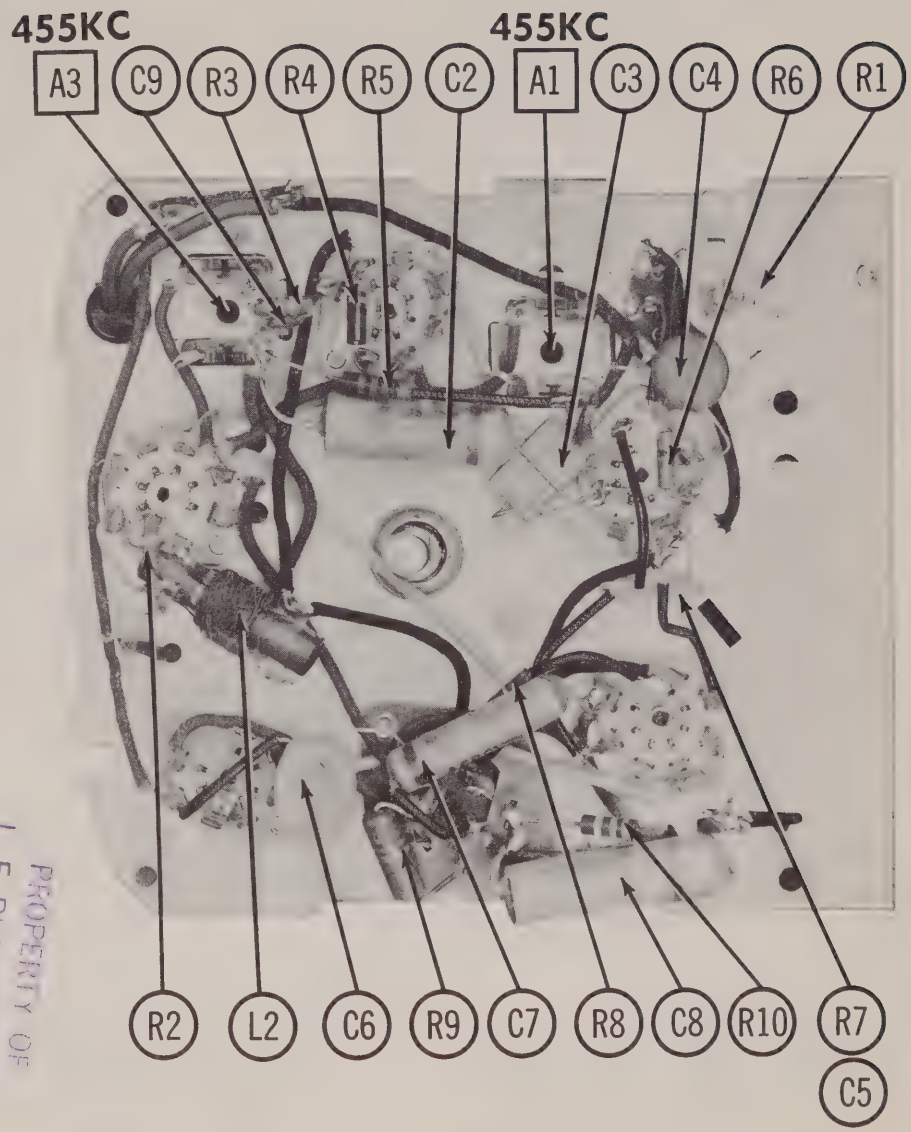
ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	ARVIN PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Ant. Coil	.4Ω		41208-1				
L2	Osc. Coil	1.1Ω	7.5Ω	41212-1	14-1073		69-Osc.*	
L3	Input IF	16Ω	16Ω	40845-1	16-6758	BC-352	12-C1	
L4	Output IF	16Ω	16Ω	40845-1	16-6758	BC-353	12-C2	

* Drill one new mounting hole.

MISCELLANEOUS

ITEM No.	PART NAME	ARVIN PART No.	NOTES
M1	Tuning cap.	41846	23-320MMF; 23-170MMF.
	Cabinet	42016-1	Rosewood - Model 850T
	Cabinet	42016-2	Ivory - Model 853T
	Cabinet	42016-3	Willow Green - Model 853T
	Cabinet	42016-4	Sandalwood - Model 853T
	Cabinet	42016-5	Coral - Model 853T
	Knob	41830-7	Tuning
	Knob	41832-7	On-Off-Volume
	Dial Crystal	41845	
	Name Plate	25579-1	

CHASSIS—BOTTOM VIEW



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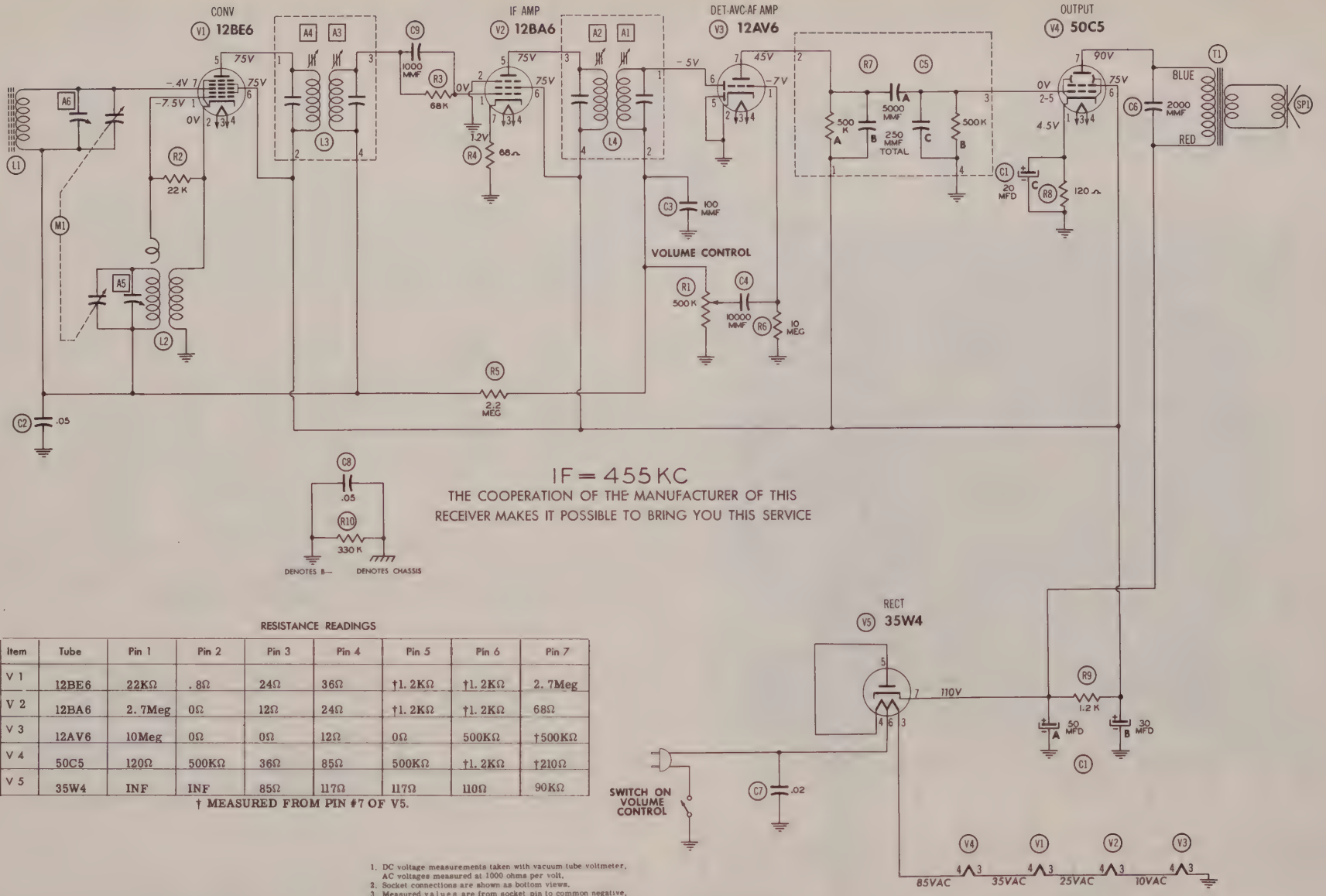
3924 MEADE ST.
DENVER, COLORADO

ARVIN MODEL 850T (Ch. 375)



IF = 455 KC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V 1	12BE6	22KΩ	.8Ω	24Ω	36Ω	†1.2KΩ	†1.2KΩ	2.7Meg
V 2	12BA6	2.7Meg	0Ω	12Ω	24Ω	†1.2KΩ	†1.2KΩ	68Ω
V 3	12AV6	10Meg	0Ω	0Ω	12Ω	0Ω	500KΩ	†500KΩ
V 4	50C5	120Ω	500KΩ	36Ω	85Ω	500KΩ	†1.2KΩ	†210Ω
V 5	35W4	INF	INF	85Ω	117Ω	117Ω	110Ω	90KΩ

† MEASURED FROM PIN #7 OF V5.

1. DC voltage measurements taken with vacuum tube voltmeter. AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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RETMA MEMBER

CHEVROLET MODEL 986771

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L F [illegible] SHIP
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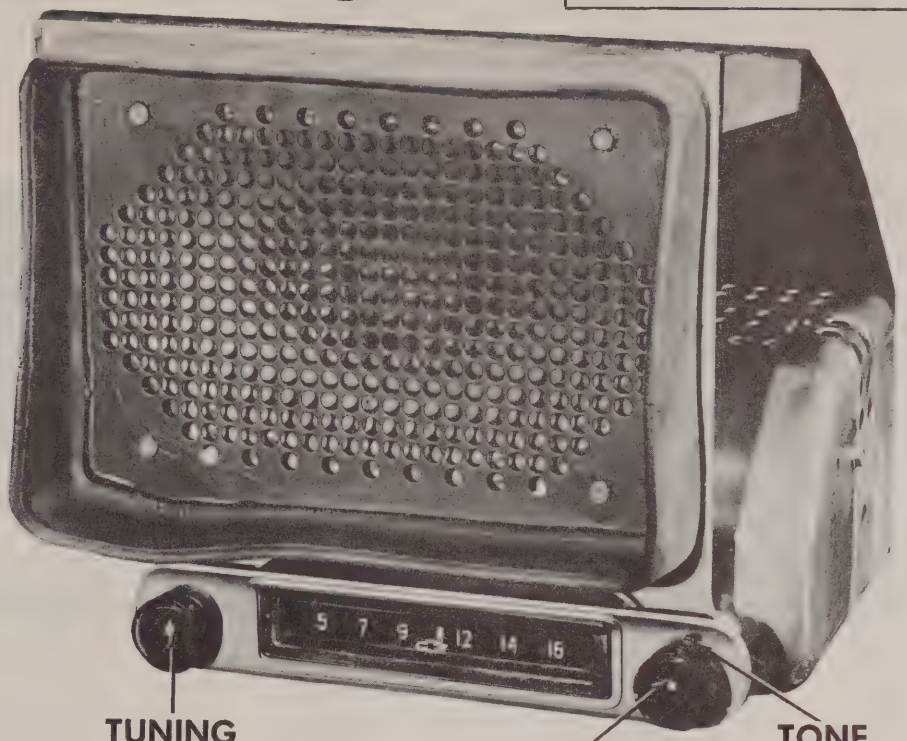
CHEVROLET
MODEL 986771



CHEVROLET
MODEL 986771

TRADE NAME	Chevrolet Model 986771 (For 1954 Chevrolet Trucks)
SUPPLIER	Chevrolet Motor Div., General Motors Corp., Detroit, Mich.
TYPE SET	Battery Operated Custom Built Automobile Superheterodyne Receiver
TUBES (Six)	Types 6BA6 RF Amp., 6BE6 Conv., 6BA6 IF Amp., 6AV6 Det.-AVC-AF Amp., 6V6GT Output, 0Z4 Rectifier
POWER SUPPLY	6 Volt Storage Battery — RATING 5.2 Amp. @ 6.3 Volts DC
TUNING RANGE—BROADCAST	540-1600KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Set tone control treble position.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MFD	High side to pin 7 (grid) of 6BE6. Low side to chassis.	262KC (400%Mod)	High frequency end stop	Across voice coil	A1, A2, A3, A4	Adjust for maximum output.
2.	82MMF	High side to antenna receptacle. Low side to chassis.	1615KC	"	"	A5, A6, A7, A8	Check mechanical setting of A8. If necessary, adjust A8 so that rear of core is 1-25/32" from mounting end of coil form. Adjust A5, A6 and A7 in order given for maximum output.
3.	"	"	1000KC	Tune to 1000KC signal	"	A9, A10	Adjust for maximum output.
4.	"	"	1615KC	High frequency end stop	"		Retouch A6 and A7 for maximum output.
5.	"	"	900KC	Tune to 900KC signal	"		If necessary, adjust dial pointer on dial cord so that pointer coincides with 900KC mark on dial.
6.	With radio installed in car and antenna fully extended tune in a weak station between 600 and 1000KC and adjust A7 for maximum volume.						

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA: CHEVROLET PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RETMA BASE TYPE	NOTES
V1	RF Amplifier	6BA6	6BA6	7BK	
V2	Converter	6BE6	6BE6	7CH	
V3	IF Amplifier	6BA6	6BA6	7BK	
V4	Det.-AVC-AF Amp.	6AV6	6AV6	7BT	
V5	Output	6V6GT	6V6GT	7AC	
V6	Rectifier	0Z4	0Z4	4R	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CHEVROLET PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C1A	■20	400	6309	AFH2-51		B040		FP234	TVL-2755	
B	▲20	400								
C2	.05	200	6512	P288-05	DF-503	PJ2S5		PT415	2TM-S5	
C3	10	500	G-100	1468-00001		5W5Q1		MC215	MS-41	
C4	39	500	G-390	1468-00004		5W5Q39		MC223	MS-44	
C5	.05	400	6512	P488-05	DF-503	CUB4S5		PT415	4TM-S5	
C6	180	500	7257424	1468-0002		5W5T18		MCB237	MS-32	
C7	.002	600	6528	P688-002	D6-202	CUB6D2		PT622	6TM-D2	
C8	.01	600	6533	P688-01	D6-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C9	.05	400	6512	P488-05	DF-503	CUB4S5		PT415	4TM-S5	
C10	.001	600	6527	P688-001	D6-102	CUB6D1	GP2-333-102	PT621	6TM-D1	
C11	.006	800		P1088-006		CUB16D6		PT1626	MB-D6	
C12	.006	1600		VBC-22		CUB16D6		PT1626	MB-D6	

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CHEVROLET PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	2Meg	½	7264211				UF26A	Tone - Panel
B	300KΩ	½					UR354A	Volume - Rear
C	Shaft						EB214	Attach to R1A
D	Switch						US-27	Attach to R1B

RESISTORS

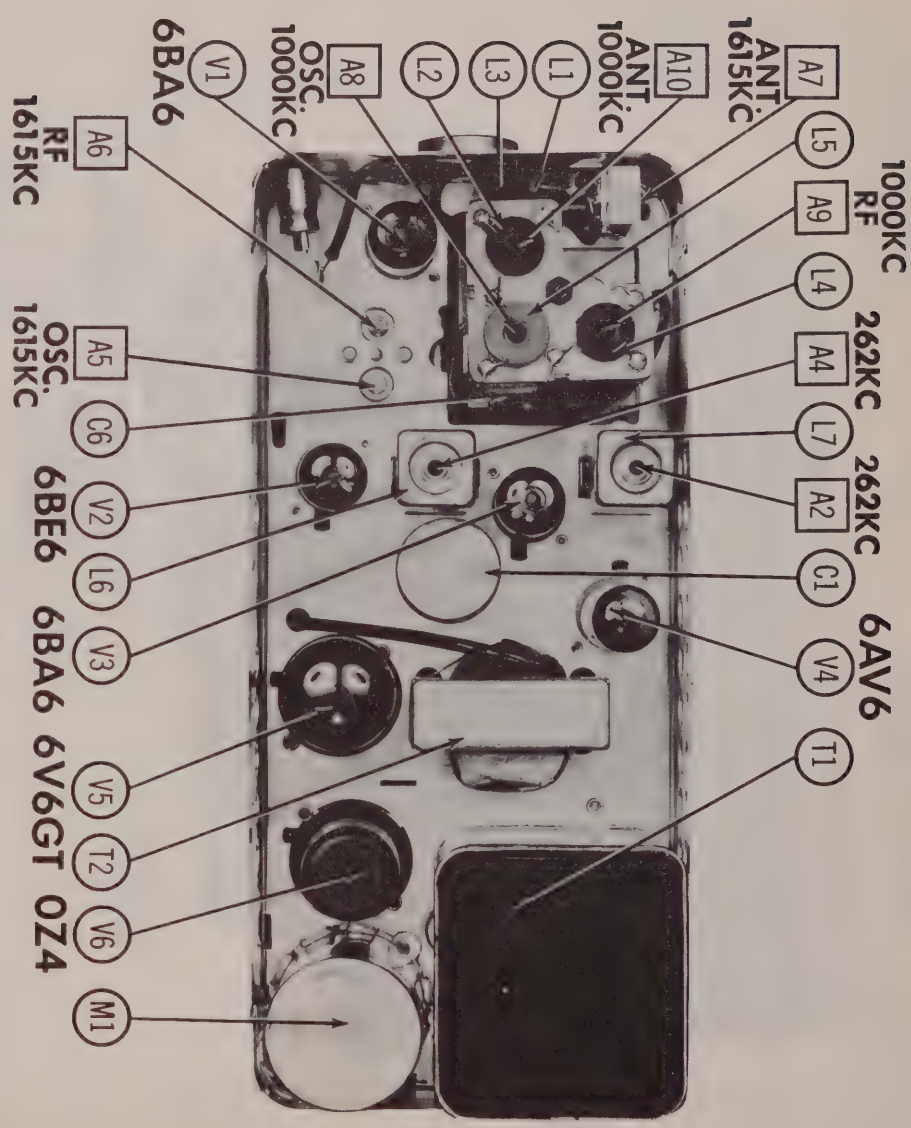
ITEM No.	RATING: OHMS	RATING: WATT	REPLACEMENT DATA: CHEVROLET PART No.	IRC PART No.	NOTES
R2	2.2Meg	½	A-225	BTS-2.2Meg	
R3	100Ω	½	A-101	BTS-100	
R4	15KΩ	2	C-153	BTB-15K	
R5	15KΩ	1	B-153	BTA-15K	
R6	330KΩ	½	A-334	BTS-330K	
R7	22KΩ	½	A-223	BTS-22K	
R8	1Meg	½	A-105	BTS-1Meg	
R9	150Ω	½	A-151	BTS-150	
R10	47KΩ	½	A-473	BTS-47K	
R11	6.8Meg	½	A-685	BTS-6.8Meg	
R12	220KΩ	½	A-224	BTS-220K	
R13	220KΩ	½	A-224	BTS-220K	
R14	330Ω	1	B-331	BTA-330	
R15	1800Ω	2	C-18Z	BTB-1800	
R16	220Ω	1	B-221	BTA-220	

TRANSFORMER (POWER)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	RATING: SEC. 3	REPLACEMENT DATA: CHEVROLET PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.
T1	6.3VCT @3.5A	490VCT .055ADC			1220163	P-6485 ①	P-4071 ①	V-12K ①	V3803 ①	

① Drill new mounting hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	CHEVROLET PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	
T2	4.8KΩ	3.3Ω	6062	A-3823	A-3019	S-5Z	Z1002	26S49	

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	CHEVROLET PART No.	JENSEN PART No.	QUAM PART No.	
SP1	6 X 9"	PM	3.3Ω	6112	ST-810 Mod. P69-V	69A3	

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	CHEVROLET PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Ant. Coupling Coil	.6Ω		7255738	19-1004		4610	7 Microhenries
L2	Ant. Coil	10Ω		7258914				Less core - core part #7259201
L3	Ant. Coupling Coil	.4Ω		7240251	19-6022		4626	26 Microhenries
L4	RF Coil	9.5Ω		7258914				Less core - core part #7259201
L5	Osc Coil	1Ω	4.6Ω	7258911				Less core - core part #7259201
L6	Input IF	30Ω	30Ω	1218725	16-6752	BC-350	12-H1	
L7	Output IF	30Ω	30Ω	1218726	16-6752	BC-351	12-H2	
L8	Fil. Choke	0Ω		1217846				1.9 Microhenries

VIBRATOR

ITEM No.	TYPE	INPUT VOLTS	FREQUENCY	REPLACEMENT DATA				NOTES
				CHEVROLET PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	RADIART PART No.	
M1	Interrupter	6.3V	115v	8542	5300	859	5300	

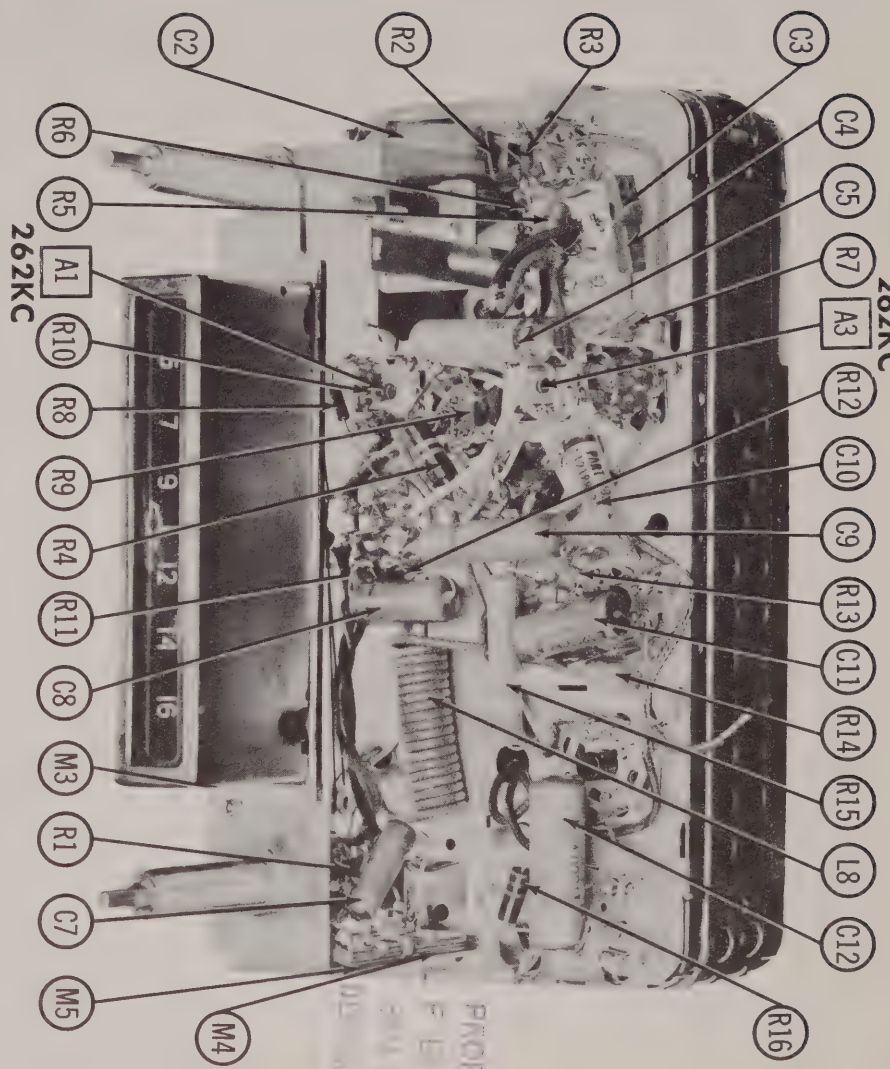
FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			CHEVROLET PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M2	SFE	14A	147685	1220246	307014 (SFE-14A)	155014	SFE-14	HRI

MISCELLANEOUS

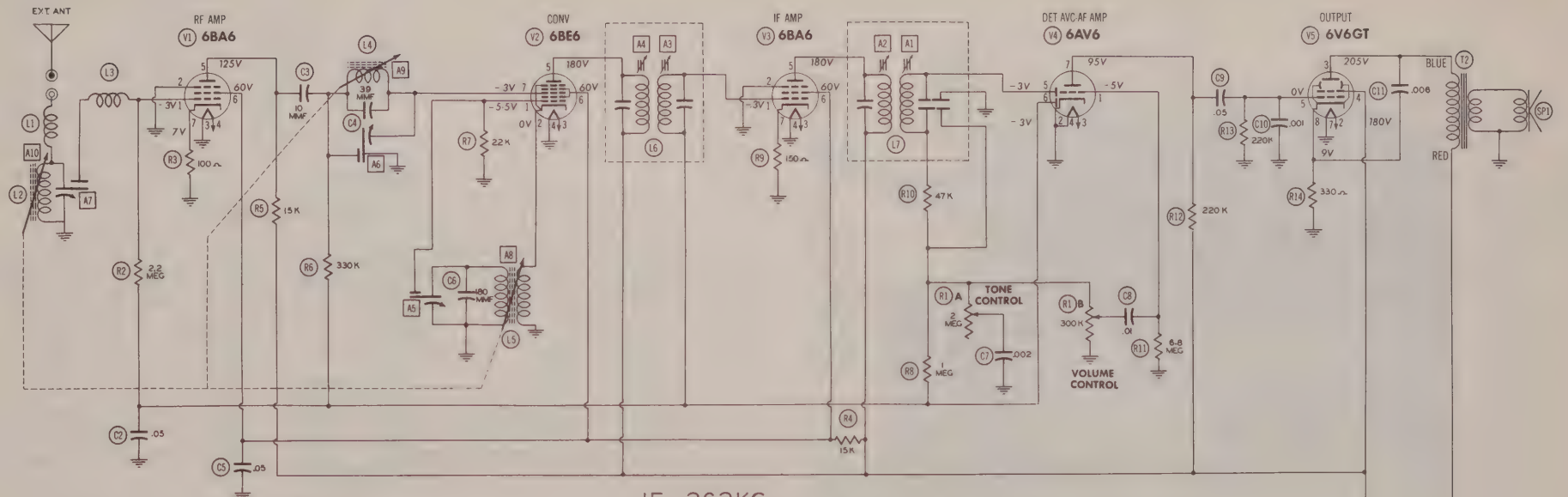
ITEM No.	PART NAME	CHEVROLET PART No.	NOTES
M3	Dial Light	44	Bayonet #44
M4	Spark Plate	1220308	Dual "A" lead and dial light
M5	Spark Plate	1217848	
A5, A6	Trimmer Cap.	7242454	4 Section - 2 variable (RF & Osc.) and 2 Fixed (RF & Osc.)
A7	Trimmer Cap.	7262799	Ant. - 2 section (1 variable and 1 fixed)
	Knob	7263887	Tuning & Off/on/volume
	Knob	7263890	Tone
	Knob	7263886	Dummy
	Dial Glass	7264055	
	Dial Pointer	7264049	

CHASSIS—BOTTOM VIEW



PROPERTY OF
F. E. WENSHIP
2411 READE ST
DENVER, COLORADO

CHEVROLET MODEL 986771



RESISTANCE READINGS

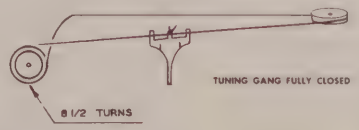
Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8
V 1	6BA6	3.5Meg	0Ω	0Ω	.1Ω	†16.8KΩ	†16.8KΩ	100Ω	
V 2	6BE6	22KΩ	1Ω	.1Ω	0Ω	†1.8KΩ	†16.8KΩ	1.6Meg	
V 3	6BA6	1.3Meg	0Ω	.1Ω	0Ω	†1.8KΩ	†16.8KΩ	150Ω	
V 4	6AV6	6.8Meg	0Ω	.1Ω	0Ω	350KΩ	1.3Meg	†220KΩ	
V 5	6V6GT	INF	.1Ω	†384Ω	†1.8KΩ	220KΩ	.38Ω	0Ω	330Ω
V 6	0Z4	0Ω	INF	380Ω	INF	420Ω	INF	150KΩ	150KΩ

† MEASURED FROM PIN 8 OF V6

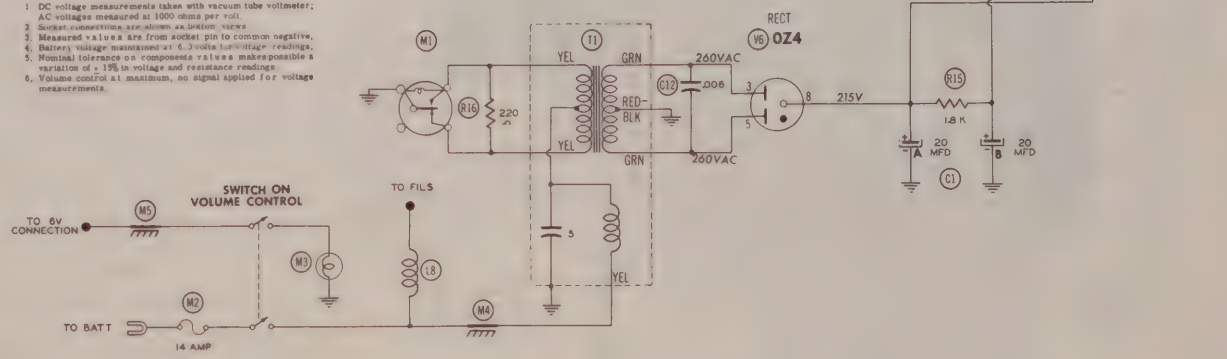
IF = 262KC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Battery voltage maintained at 6.3 volts for voltage readings.
5. Nominal tolerance on components values makes possible a variation of ± 15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.



DIAL CORD STRINGING



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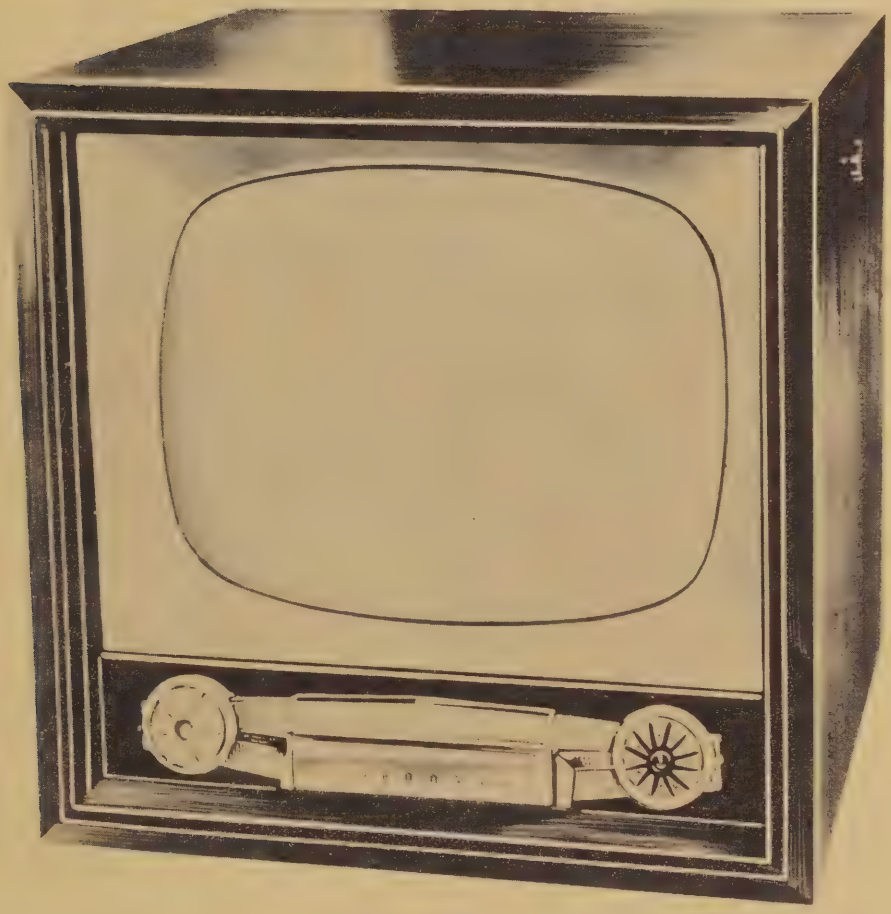

MODEL 45TV11-43-9027A

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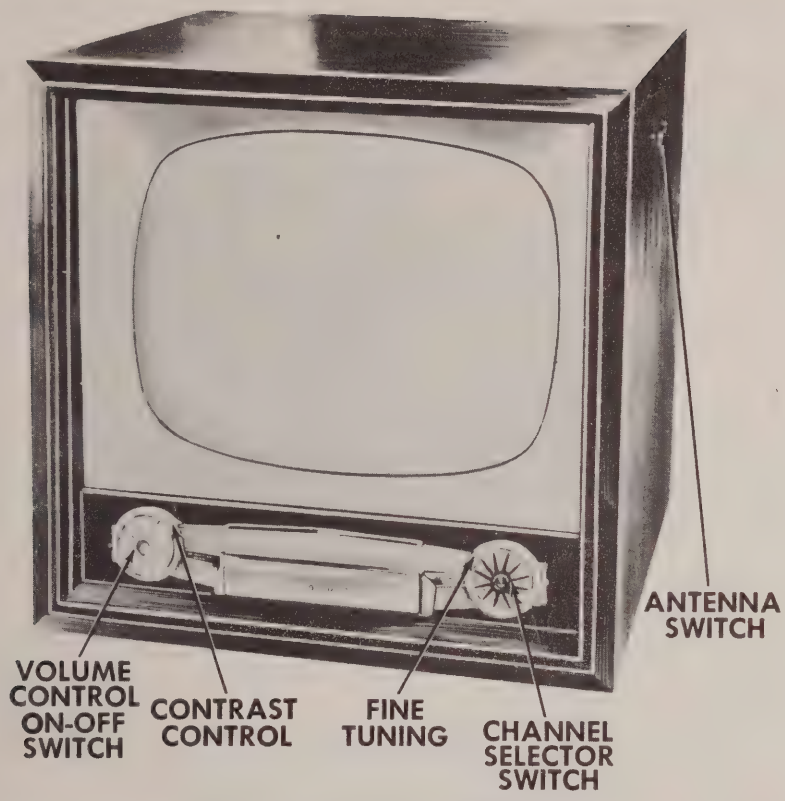

CORONADO MODEL 45TV11-43-9027A

TRADE NAME	Coronado	MODELS	SERIES	MODEL NAME
		45TV11-43-9027A, 45TV11-43-9028A	XT-100	Logan
		45TV11-43-9085A, 45TV11-43-9086A	XT-100	York
		45TV11-43-9087A, 45TV11-43-9088A, 45TV11-43-9089A, 45TV11-43-9090A	XT-100	Norwood
		45TV11-43-9091A, 45TV11-43-9092A, 45TV11-43-9093A, 45TV11-43-9094A	XT-100	Monticello
		45TV11-43-9095A, 45TV11-43-9096A, 45TV11-43-9097A, 45TV11-43-9098A	XT-100	Hamton
		45TV11-43-9130A, 45TV11-43-9131A	XT-100	Savannah

SUPPLIER Gamble-Skogmo Inc., 15 North 8th. St., Minneapolis, Minn.
TYPE SET Television Receiver
TUBES Eighteen
POWER SUPPLY 110-120 Volts AC-60 Cycles RATING 1.52 Amp. @ 117 Volts AC
TUNING RANGE Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 25.1MC, Sound IF 20.6MC (Intercarrier)

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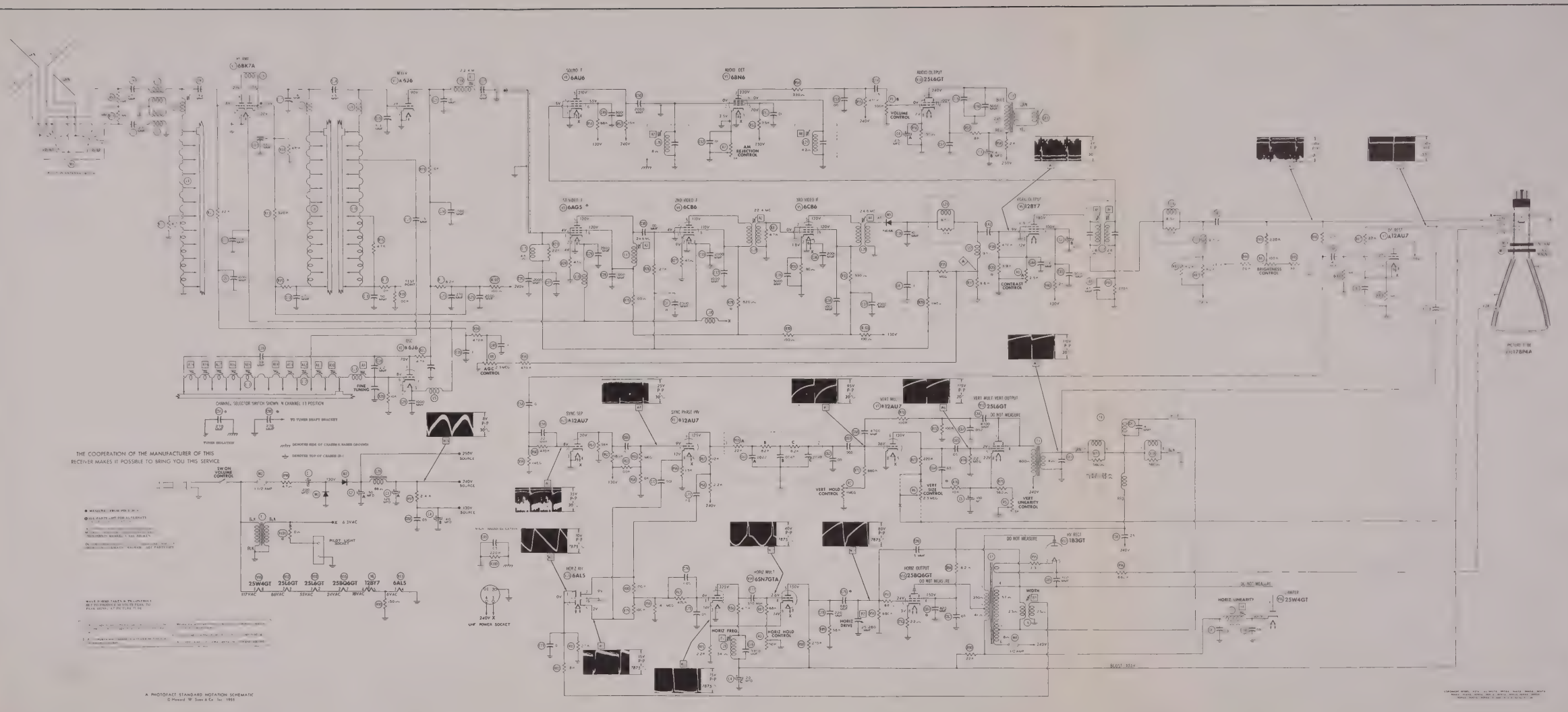
THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE
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CORONADO MODELS 457V11-43-9037A, -9028A, -9035A, -9036A, -9037A, -9038A, -9089A, -9090A, -9091A, -9092A, -9093A, -9094A, -9095A, -9096A, -9097A, -9098A, -9130A, -9131A (Series XT-100)

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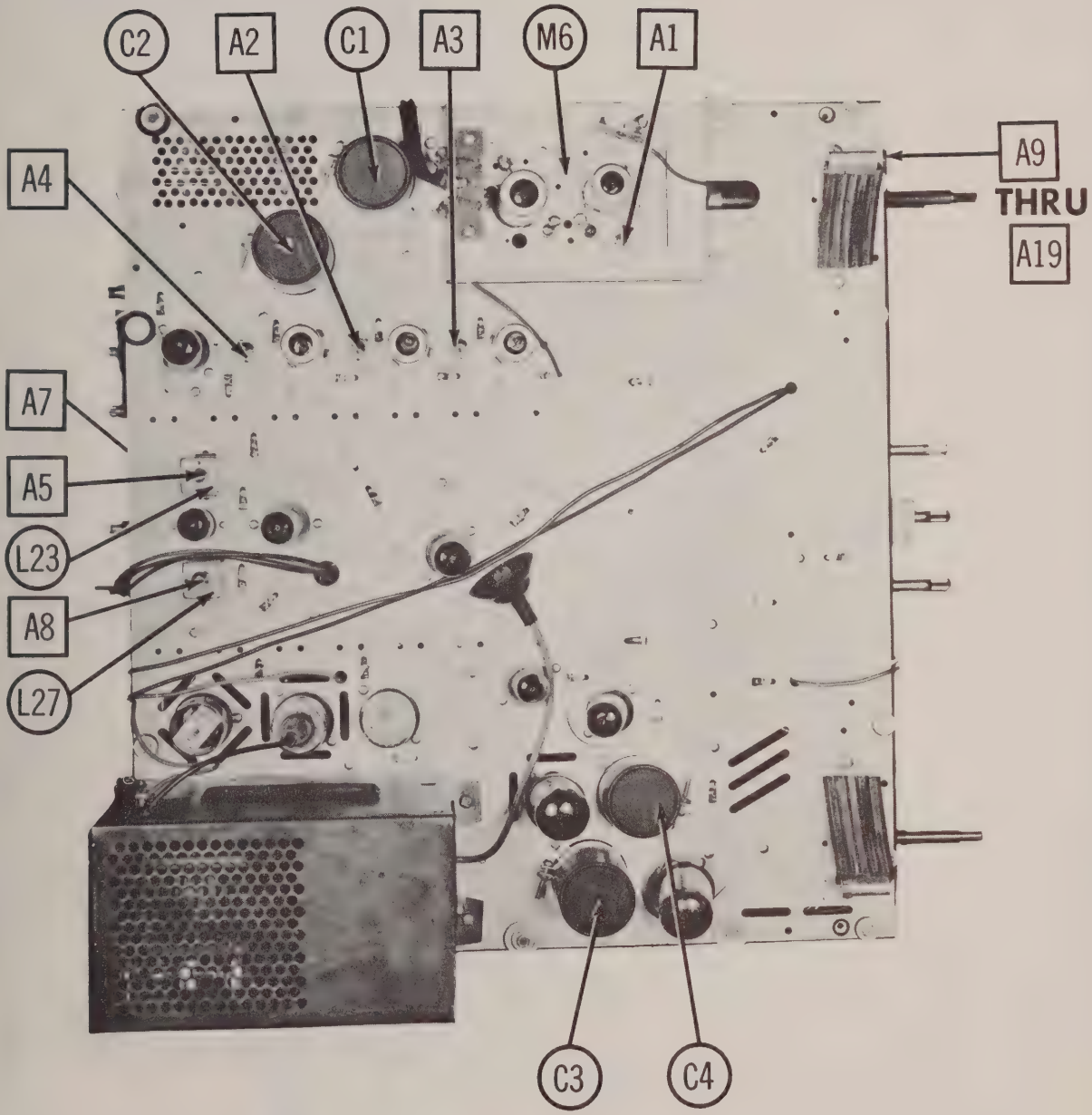
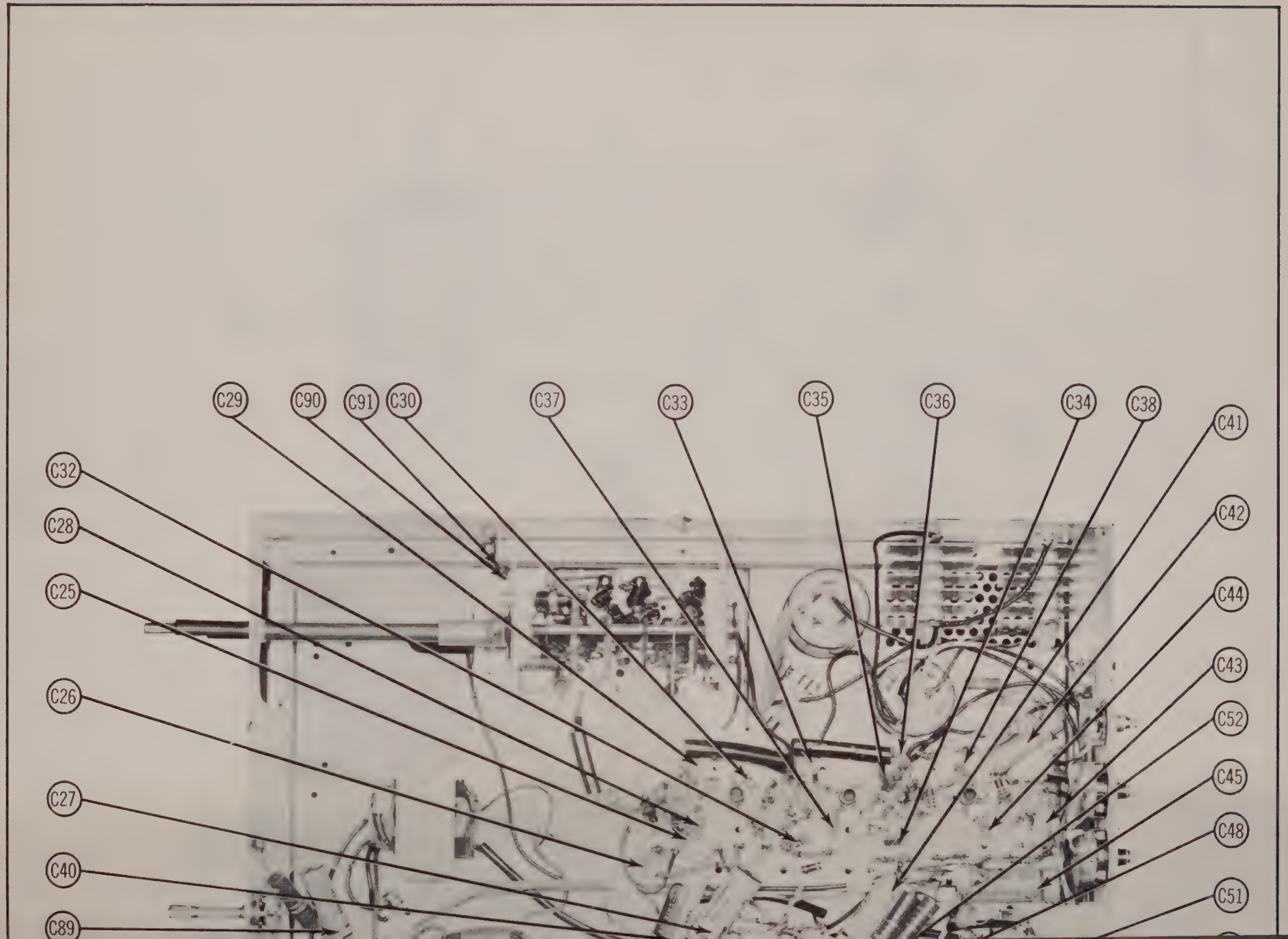


CHASSIS TOP VIEW


C29
C90
C91
C30
C37
C33
C35
C36
C34
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C41
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C28
C44
C25
C43
C26
C52
C45
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TUBE PLACEMENT CHART

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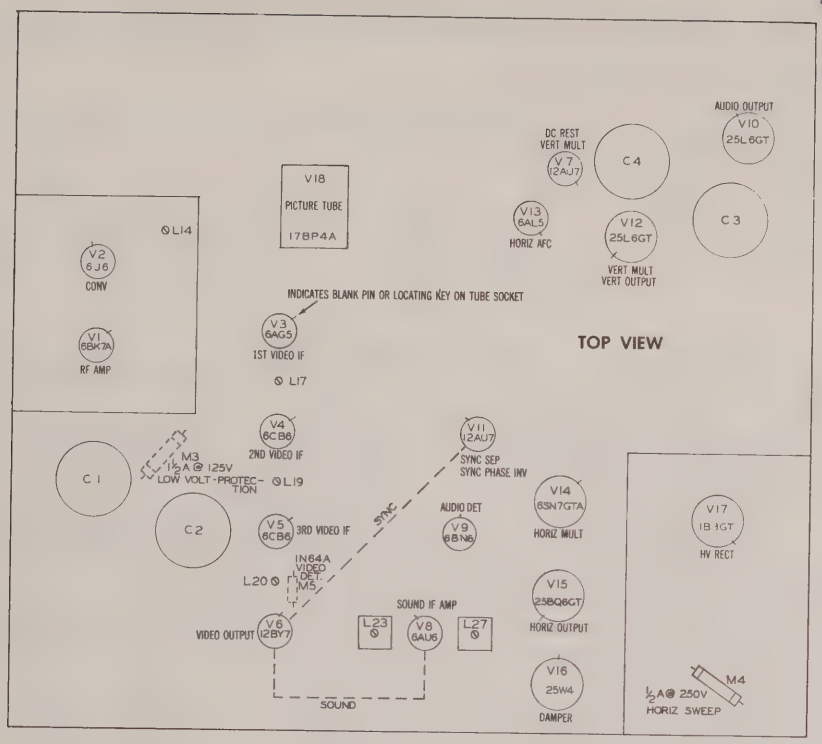


TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

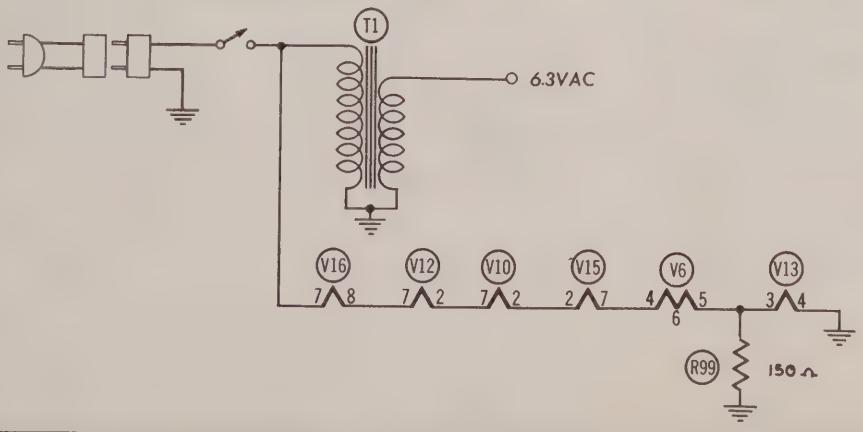
POWER SUPPLY FAILURE
No raster, no sound - Selenium Rectifier (M1 & M2), Fuse (M3)

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster - V2, V3, V4, V5, V6
No pic, no sound, has snow - V1, V2, V3
No pic, has sound, has raster - V6, V18
Has pic, no sound - V8, V9, V10

SYNC FAILURE
No vert. sync - V7, V11, V12
No horiz. sync - V11, V13, V14
No vert. or horiz. sync - V11

SWEEP FAILURE
No raster, has sound - V14, V15, V16, V17, V18, Fuse (M4)
No vertical deflection - V7, V12
Poor vert. linearity or foldover - V7, V12
Poor horiz. linearity or foldover - V14, V15, V16
Narrow picture - V14, V15, V16, V17, M1, M2
Vert. off freq. - V7, V11, V12
Horiz. off freq. - V11, V13, V14

SINCE THIS RECEIVER EMPLOYS TUBES USED IN A SERIES-PARALLEL FILAMENT NETWORK, AN OPEN FILAMENT IN ANY TUBE IN SERIES MAY CAUSE THE SET TO BE INOPERATIVE. (SEE CIRCUIT BELOW.)



CORONADO MODELS 45TV11-43-9027A, -9028A, -9085A, -9086A, -9087A, -9088A, -9089A, -9090A, -9091A, -9092A, -9093A, 9094A, -9095A, -9096A, -9097A, -9098A, -9130A, -9131A (Series XT-100)

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal oscillator tube (V14) from it socket to disable the high voltage.
Use an isolation transformer to protect the test equipment.
Make all test equipment ground returns to B- (chassis top plate).

VIDEO IF ALIGNMENT

Set contrast control for minimum contrast. Remove the converter tube (V2) and replace with a 6J6 which has Pin 1 removed. This will disable the local oscillator and reduce the possibility of erroneous indications.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an ungrounded tube shield floating over dummy converter tube. Low side to B-.	22.4MC (Unmod)	Any	DC probe to point (A). Common to B-.	A1, A2	Adjust for maximum deflection.
2.	"	"	24.6MC	"	"	A3, A4	"

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
3.	Direct	High side to an ungrounded tube shield floating over dummy converter tube. Low side to B-.	24MC (10MC Swp)	20.6MC 22.0MC 25.1MC 26.6MC	Any	Vert. Amp. thru 10KΩ to point (A) Low side to B-.		Check for response curve similar to Fig.1. If necessary, retouch A1 thru A4 to obtain desired response.

SOUND IF ALIGNMENT USING ON THE AIR SIGNAL

Remove the dummy converter tube and replace the original 6J6 in its socket.
Tune in a TV station and connect an attenuator pad (Fig. 2) in series with the antenna.
Attenuate the input until the sound signal drops below the limiting level of the 6BN6 as indicated by a hiss similar to superregeneration.
It may be necessary to use more than one pad similar to Fig. 2 to reduce the signal input below the limiting level of the 6BN6.
Adjust the sound take off coil (A5 and A6) for maximum audio. Adjust A7 for maximum audio signal regardless of hiss or buzz. If the hiss disappears during adjustment of A5 or A6 reduce the signal input until the hiss returns. When maximum sound output hase been reached through adjustment of A5, A6 and A7 increase the signal output to the point where the hiss disappears and adjust A8 for maximum sound output.
Adjust the AM rejection control (R7A) for minimum intercarrier buzz, then repeat the adjustment of A8 and R7A.

OSCILLATOR ALIGNMENT

There is no individual oscillator adjustment for channel 7 as the alignment for channel 8 assures proper alignment for channel 7.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the fine tuning control to the mid-position of its range.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
4.	Two 120Ω Carbon Resistors	Across antenna terminals with 120Ω in each lead.	213MC (10MC Swp)	211.25MC 215.75MC	13	Vert. Amp. thru 10KΩ to point (A). Low side to B-.	A9	Adjust to place video marker at 50% on response curve as in Fig. 3.
			207MC (10MC Swp)	205.25MC 209.75MC	12		A10	
			201MC (10MC Swp)	199.25MC 203.75MC	11		A11	
			195MC (10MC Swp)	193.25MC 197.75MC	10		A12	
			189MC (10MC Swp)	187.25MC 191.75MC	9		A13	
			183MC (10MC Swp)	181.25MC 185.75MC	8		A14	
			85MC (10MC Swp)	83.25MC 87.75MC	6		A15	
			79MC (10MC Swp)	77.25MC 81.75MC	5		A16	
			69MC (10MC Swp)	67.25MC 71.75MC	4		A17	
			63MC (10MC Swp)	61.25MC 65.75MC	3		A18	
			57MC (10MC Swp)	55.25MC 59.75MC	2		A19	

RF AND MIXER ALIGNMENT

The RF and mixer portion of this receiver has been properly aligned at the factory and is very stable. Alignment of this portion should not be required in the field.

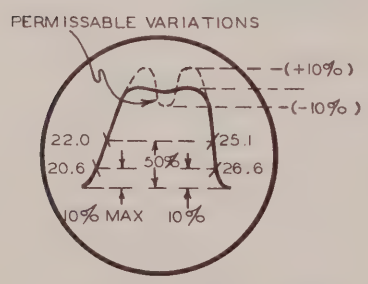


FIG. 1

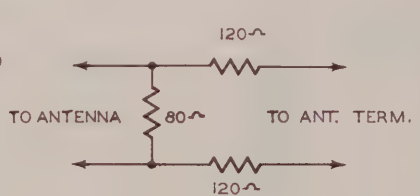


FIG. 2

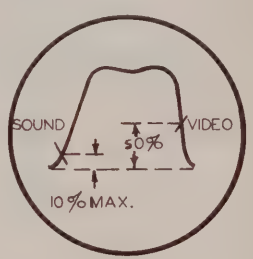


FIG. 3

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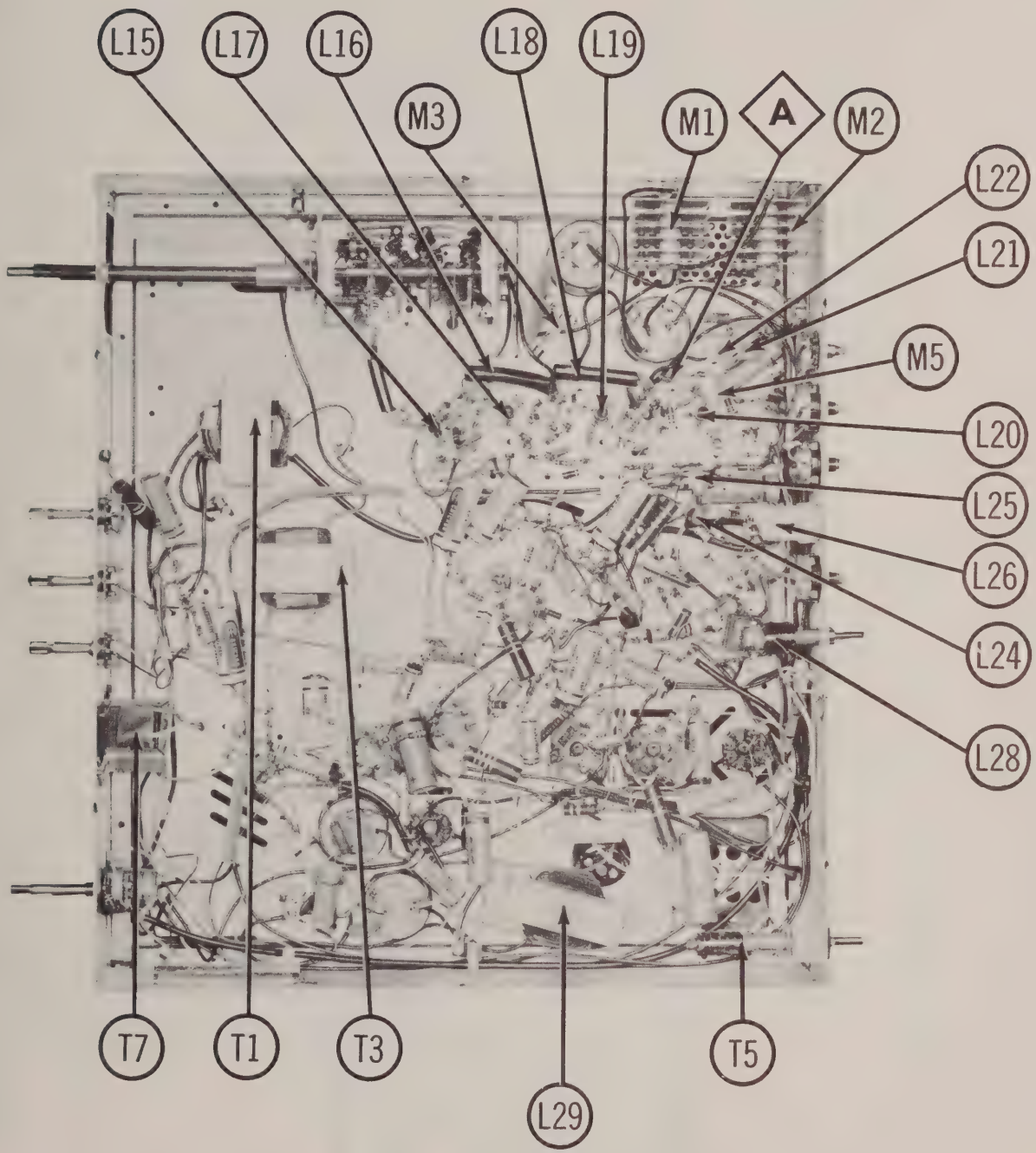
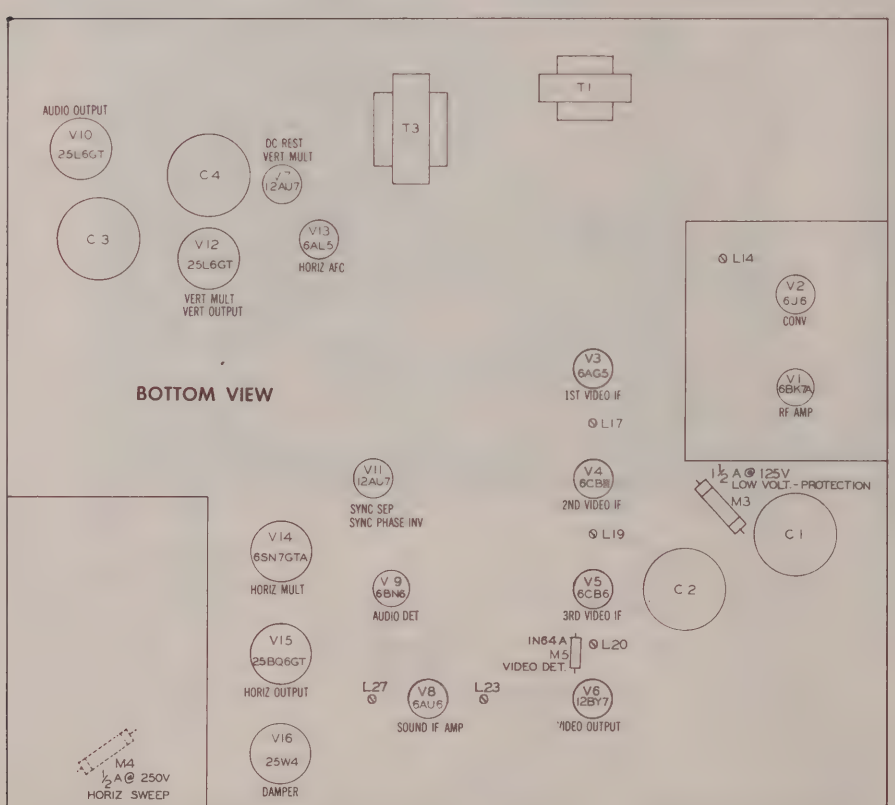


CHASSIS BOTTOM VIEW-TRANS., INDUCTOR AND ALIGNMENT IDENTIFICATION

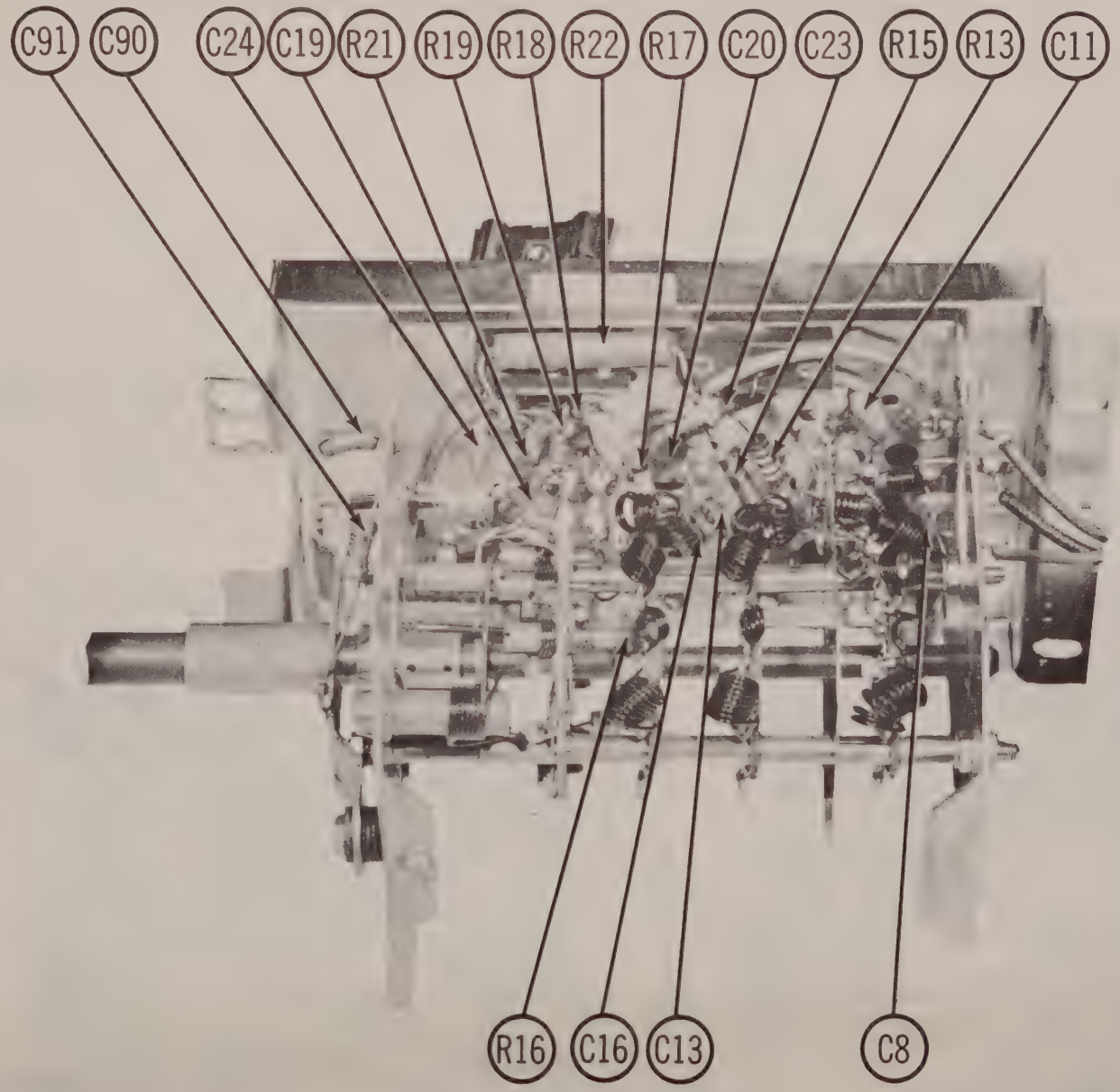
RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BQ7A	†1.2KΩ	200KΩ	INF	0Ω	.1Ω	INF	2Meg	0Ω	0Ω
V 2	6J6	†13.2KΩ	†18.4KΩ	.1Ω	0Ω	110KΩ	10KΩ	0Ω		
V 3	6AG5	2Meg	47Ω	.1Ω	0Ω	†2.8KΩ	†2.8KΩ	47Ω		
V 4	6CB6	2Meg	47Ω	.1Ω	0Ω	†3.4KΩ	†3.4KΩ	0Ω		
V 5	6CB6	.2Ω	180Ω	.1Ω	0Ω	†2.8KΩ	†2.8KΩ	0Ω		
V 6	12BY7	800Ω	470KΩ	0Ω	16.5Ω	5Ω	10.5Ω	†4.2KΩ	†14.5KΩ	0Ω
V 7	12AU7	†2.4KΩ	1Meg	1Meg	.1Ω	.1Ω	▲1.4Meg	1.2Meg	0Ω	0Ω
V 8	6AU6	270KΩ	0Ω	0Ω	.1Ω	†15KΩ	†70.5KΩ	0Ω		
V 9	6BN6	500Ω	1.6Ω	.1Ω	0Ω	†10KΩ	4.2Ω	†470KΩ		
V 10	25L6GT	INF	28Ω	†2.3KΩ	†20KΩ	250KΩ	INF	30Ω	150Ω	
V 11	12AU7	†50KΩ	1.5Meg	0Ω	.1Ω	.1Ω	†14.2KΩ	†1.1Meg	1.5KΩ	0Ω
V 12	25L6GT	INF	30Ω	†666Ω	†666Ω	2.2Meg	▲1.2Meg	19.5Ω	800Ω	
V 13	6AL5	11KΩ	11KΩ	5.5Ω	0Ω	4.8Meg	0Ω	4.8Meg		
V 14	6SN7GT	5.2Meg	▲25KΩ	2.2KΩ	80KΩ	▲300KΩ	2.2KΩ	0Ω	.1Ω	
V 15	25BG6GT	0Ω	28Ω	INF	†6.2KΩ	680KΩ	5.6KΩ	16.5Ω	22Ω	TOP CAP ▲63Ω
V 16	25W4	INF	INF	1Meg	INF	†90Ω	1Meg	.4Ω	19.5Ω	
V 17	1B3GT		PINS	1 - 8	HAVE	INF	RESISTANCE			TOP CAP ▲413Ω
V 18	17BP4A	0Ω	1Meg	PIN 10 ▲22KΩ	PIN 11 †180KΩ	PIN 12 .1Ω				

† MEASURED FROM OUTPUT OF M2
▲ MEASURED FROM PIN 3 OF V16



TUBE PLACEMENT CHART



RF TUNER-RIGHT SIDE

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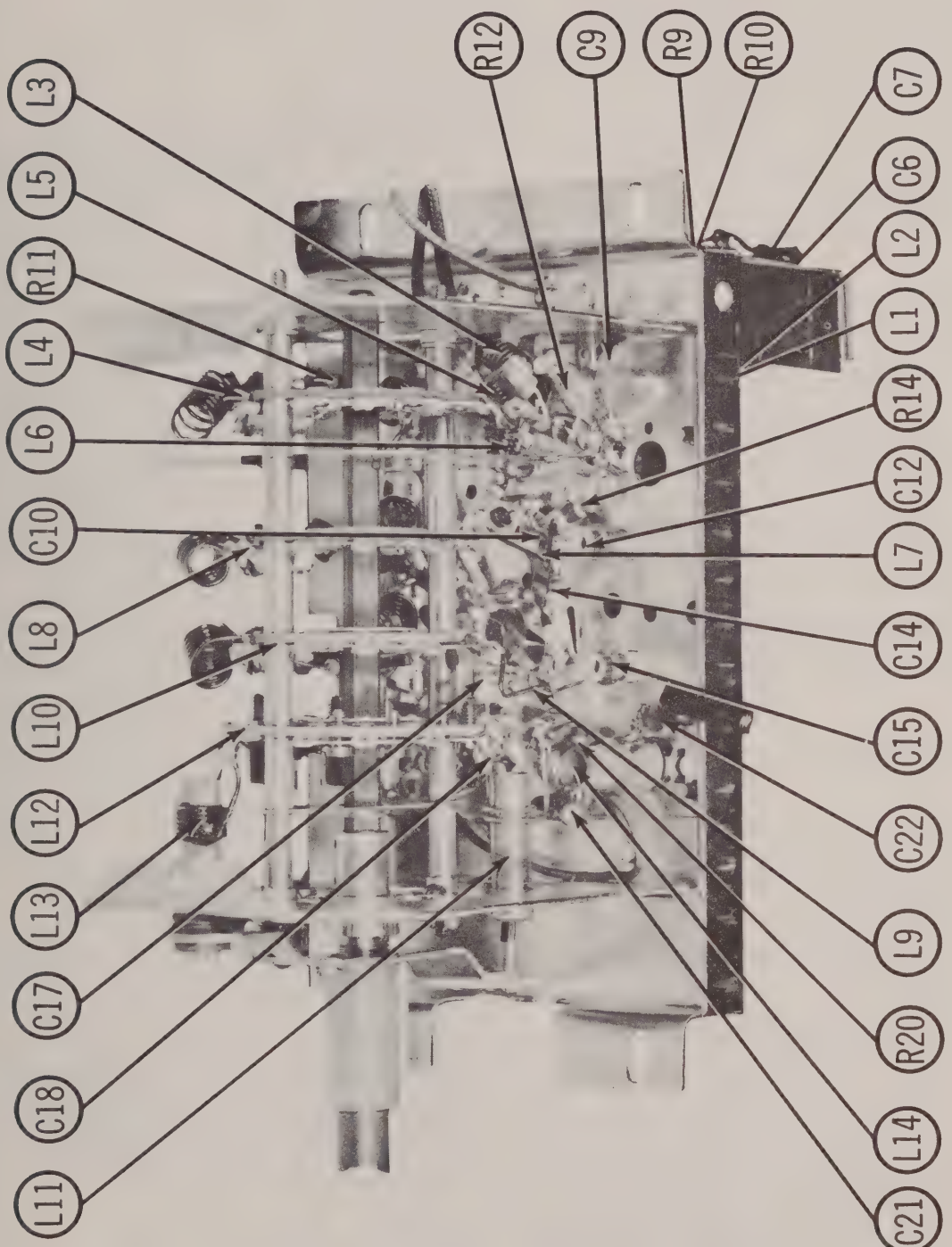

RF TUNER-LEFT SIDE

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TROUBLE SHOOTING AIDS

SWEEP

HORIZONTAL

LOSS OF SWEEP

Follow procedure outlined under "Loss of High Voltage".

INSUFFICIENT SWEEP

Check adjustments B2, B3 and B4. Check by substitution V15 and V16. Check M1, M2, R94 and other associated components.

DRIVE LINES

Check adjustments B2 and B4. Check by substitution V15 and V16. Check C79, R91, R94, R93, T2, T4A and other associated components.

COMPRESSED LEFT SIDE

Check by substitution V15 and V16. Check horizontal output and damper stages for component failure or change of value.

FOLDS

Follow procedure outlined under "Drive Lines".

PIE CRUST EFFECT

Check by substitution V14, V15 and V16. Check C75 for open. Check other components associated with V14.

XMAS TREE EFFECT

Check by substitution V14, V15 and V16. Check T2 and T4A for internal arcing. Check C77, C76, C79, R87, R86 and other associated components.

VERTICAL

LOSS OF SWEEP

Check by substitution V7 and V12. Check waveform W6.

If Satisfactory	If Unsatisfactory
Check T3, T4B, C69, C5 and other associated components.	Check C65, R73, R6 and other associated components.

INSUFFICIENT SWEEP

Check by substitution V7 and V12. Check vertical size and vertical linearity controls for proper operation. Check T3, T4B and other associated components.

COMPRESSED AT BOTTOM

Check by substitution V7 and V12. Check R6, R73, C64, C65 and other associated components.

COMPRESSED AT TOP

Check by substitution V7 and V12. Check C5, R76, R75, R5 and other components associated with V12.

FOLDS

Check by substitution V7 and V12. Check C64, R76, R75, R5 and other associated components.

SYNC

LOSS OF VERTICAL AND HORIZONTAL SYNC

Substitute V11. Check C58, C60, R68, R67, R62, R61 and other associated components.

LOSS OF VERTICAL SYNC-HORIZONTAL SYNC SATISFACTORY

Check by substitution V11 and V7. Check R2, C63, Check vertical integrator network. Check video IF alignment for overloading.

LOSS OF HORIZONTAL SYNC-VERTICAL SYNC SATISFACTORY

Check by substitution V13 and V14. Check waveform W11.

If Satisfactory	If Unsatisfactory
Check L28, C76, C77, R87, R3 and other associated components.	Check horizontal AFC network for component failure or change of value.

HORIZONTAL BENDING

Check by substitution V11, V13 and V14. Check components associated with V13.

VIDEO

LOSS OF VIDEO

Substitute V6. Check L25, C43, C45, R40, picture tube and other associated components.

SOUND BARS (4.5MC BEAT)

Adjust tuner fine tuning for best sound and picture. Check adjustment A5. Check video IF alignment.

POOR CONTRAST"

Substitute V6. Check video crystal detector network. Check contrast control, picture tube and other associated components.

NEGATIVE PICTURE

Substitute V6. Check video crystal detector network. Check picture tube. Check video IF alignment.

SMEAR

Substitute V6. Check L21, L22, L24, L25. Check video IF alignment and other associated components.

WIDE BLACK BAR ACROSS PICTURE

Check by substituion V1, V3, V4, V5 and V6 for heater to cathode leakage.

AUDIO

WEAK OR NO SOUND

Check by substitution V8, V9 and V10. Check stage V10 using audio signal generator. Apply audio across R18.

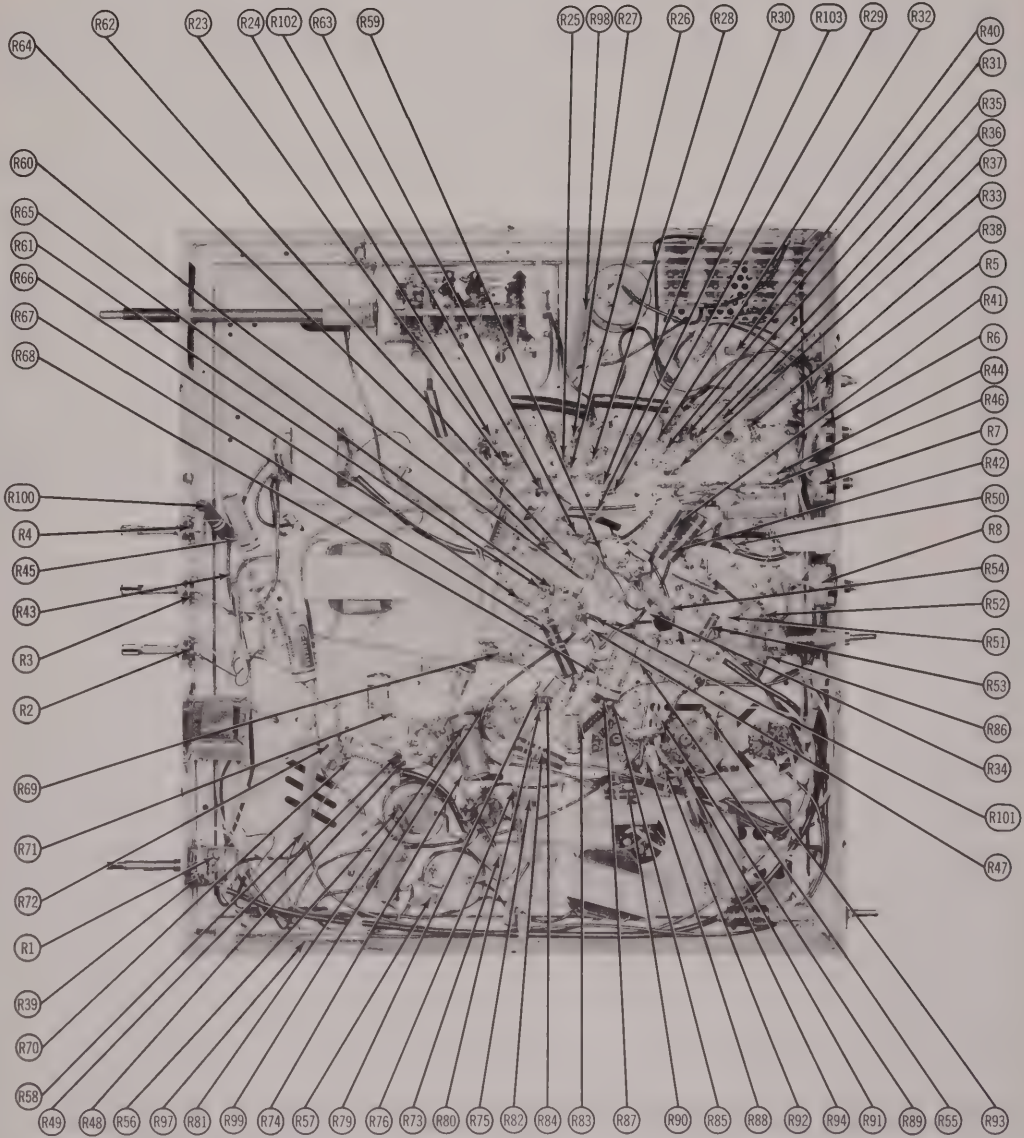
If Satisfactory	If Unsatisfactory
Check audio detector and audio IF stages for component failure or change of value.	Check C54, C55, C56, R57, R58, R56, C57, T7, speaker and other associated components.

BUZZ

Adjust tuner fine tuning for best sound and picture. Check adjustments R7 and A8 for minimum buzz. If still unsatisfactory, check audio IF alignment

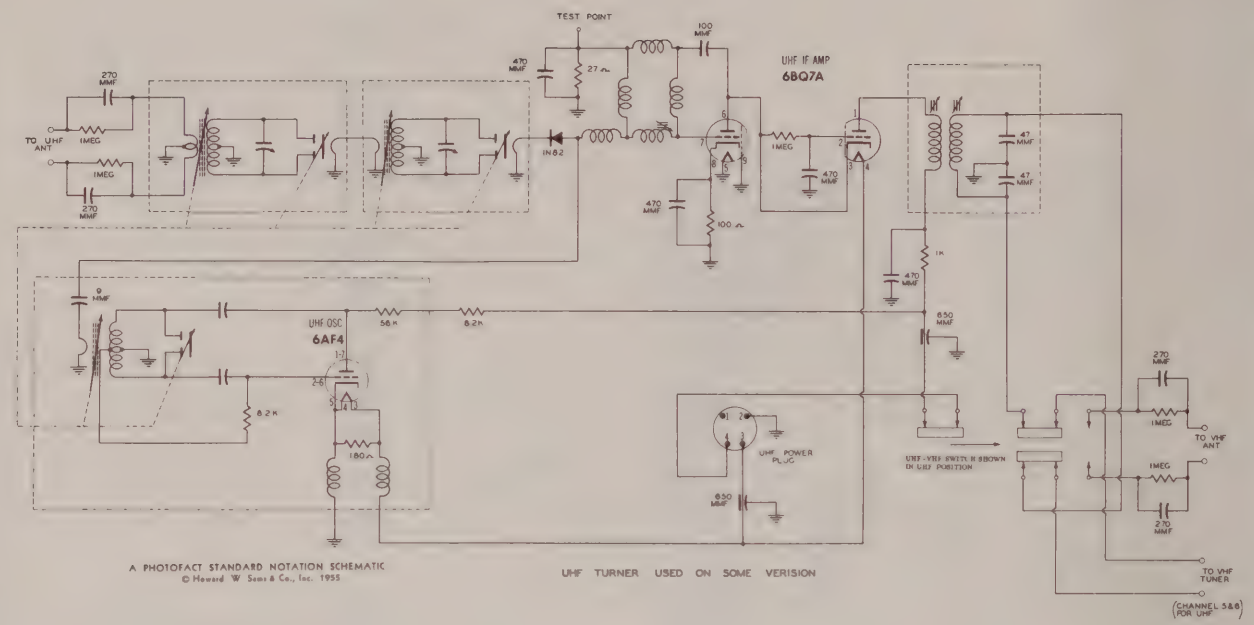
DISTORTED

Follow procedure outlined under "Weak or No Sound".

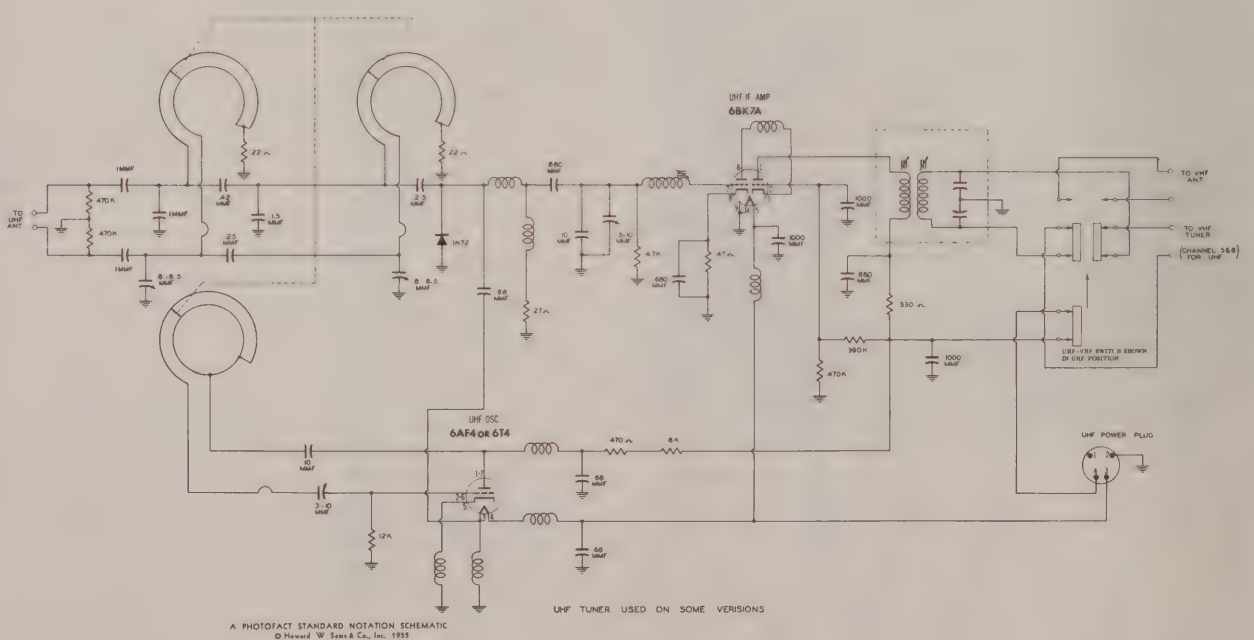


CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

CORONADO MODELS 457V11-43-9027A, -9028A, -9085A, -9086A, -9087A, -9088A, -9089A, -9090A, -9091A, -9092A, -9093A, 9094A, -9095A, -9096A, -9097A, -9098A, -9130A, -9131A (Suffix XT-100)

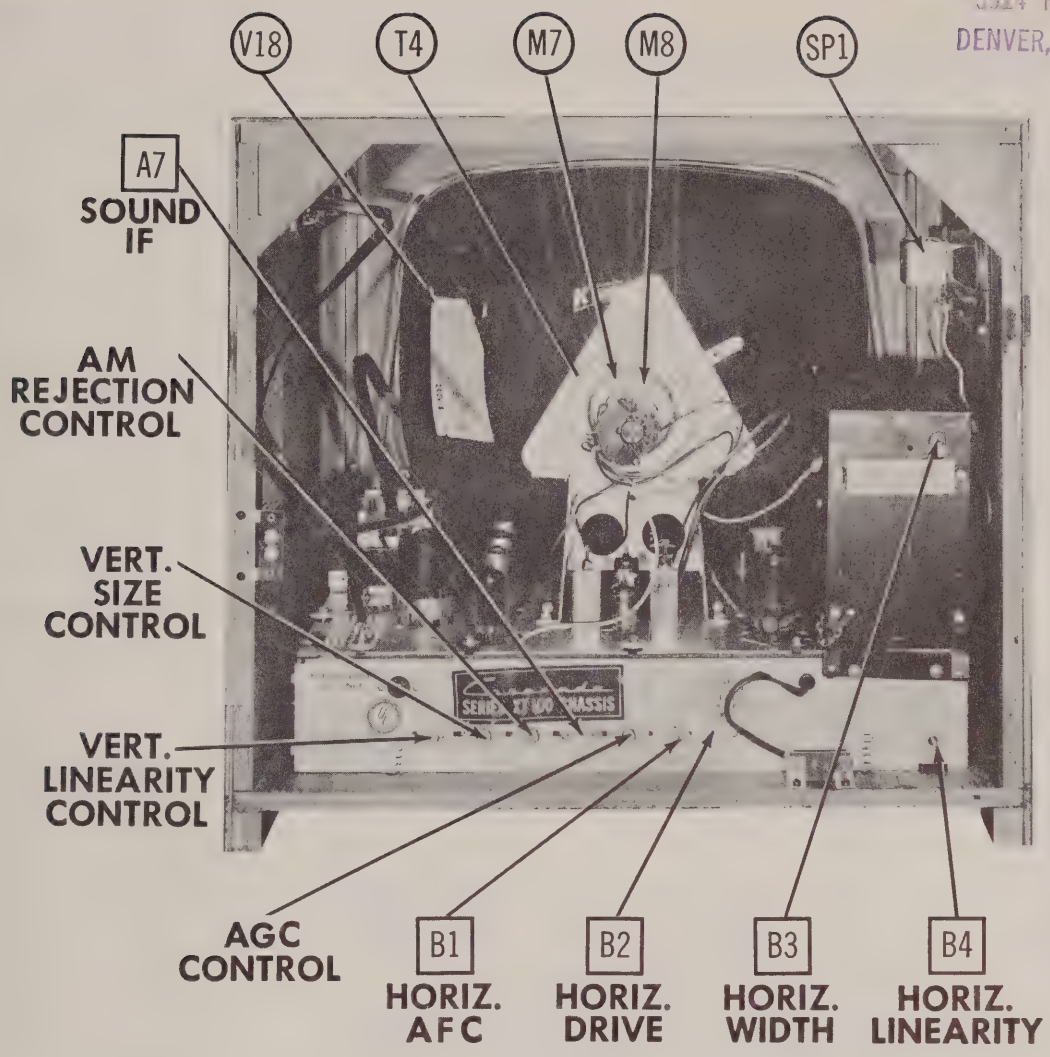


ALTERNATE UHF TUNER SCHEMATIC



ALTERNATE UHF TUNER SCHEMATIC

PROPERTY OF
L. F. BLANKENSHIP
3024 MEADE ST.
DENVER, COLORADO



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station, preferably a test pattern.

Set the horizontal hold control to its mid-range position.

Adjust the horizontal frequency slug (B1) until the picture synchronizes horizontally.

Adjust the horizontal drive trimmer (B2) for the best compromise between brightness and horizontal linearity.

Adjust the width slug B3 for a picture slightly wider than necessary to fill the picture mask horizontally.

Adjust the horizontal linearity slug B4 for a picture that is symmetrical from left to right.

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA: CORONADO PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RETMA BASE TYPE	NOTES
V1	RF Amplifier	6BK7A	6BK7A	9AJ	
V2	Converter	6J6	6J6	7BF	
V3	1st. Video IF Amp.	6AG5	6AG5	7BD	
V4	2nd. Video IF Amp.	6CB6	6CB6	7CM	
V5	3rd. Video IF Amp.	6CB6	6CB6	7CM	
V6	Video Output	12BY7	12BY7	8BF	
V7	DC Restorer-Vert. Mult.	12AU7	12AU7	9A	
V8	Sound IF Amp.	6AU6	6AU6	7BK	
V9	Audio Detector	6BN6	6BN6	7DF	
V10	Audio Output	25L6GT	25L6GT	7B	
V11	Sync Separator-Sync Phase Inv.	12AU7	12AU7	9A	
V12	Vert. Mult.-Vert. Output	25L6GT	25L6GT	7B	
V13	Horiz. AFC	6AL5	6AL5	6BT	
V14	Horiz. Mult.	6BN7GTA	6BN7GTA	8BD	
V15	Horiz. Output	25BQ6GT	25BQ6GT	6AM	
V16	Damper	25W4	25W4	4CG	
V17	HV Rectifier	1B3GT	1B3GT	8C	

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA: CORONADO PART No.	CBS-HYTRON PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	WESTINGHOUSE PART No.	RETMA BASE TYPE	NOTES
V18	17BP4A	17BP4A	17BP4A 17BP4B ①	17BP4A	17BP4A	12N 12N 12D	① Aluminized ② Circuit changes necessary.

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CORONADO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C1	200	150	CEM-B-E	AFHI-71		XB006		FP118	TVL-1431	
C2A	▲150	300	CEM-21	AFBHI-73		B027		FP218	TVL-2591	
B	▲10	300		PR2350/10		BM1035		TC77		
C3A	▲120	300	CEM-11	AFHI-72		B070		FP318	TVL-3585	
B	▲40	300		PR6450/40				TC55		
C4A	▲25	25	CEM-13	AFHI-123		C106		FP387.5	TVL-4732	
B	▲40	300								
C	▲20	450								
C5	100	25	CET-5	PR625/100		BHR251		TC2501	TVA-1207	
C6	270			S1270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	
C7	270			S1270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	
C8	39			S139	D6-390	TP28	GP1K-390	UC-5439	5GA-Q39	
C9	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C10	1000			EF-1000	MPT-1000				502C-D1	
C11	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C12	1-6				S1P4-6		S1P9-01-06			
C13	270			S1270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	
C14	1.5			SIL.5MP0	TCZ-1.5	T204	MP0K-1R5	ZT-5515	5TCCB-V15	
C15	5-3				S25-03-0R5		C7595A	S25-03		
C16	100			SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	
C17	1.5			SIL.5MP0	TCZ-1.5	T204	MP0K-1R5	ZT-5515	5TCCB-V15	
C18	2.2									
C19	39									
C20	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C21	10			SI10NP0	TCZ-10	T209	MP0K-100	ZT-541	5TCC-Q1	
C22	270			S1270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	
C23	270			S1270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	
C24	1000			BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C25	2000		CC-23	BPD-002	DD-202	K072	811-001	DC-522	5HK-D2	
C26	2000		CC-23	BPD-002	DD-202	K072	811-002	DC-522	5HK-D2	
C27	.1	400	CP-2-01	P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C28	1000		CC-25	SI1000	D6-102	TP52	GP2L-102	UC-521	5HK-D1	
C29	2000		CC-22	BPD-002	DD-202	K072	811-002	DC-522	5HK-D2	
C30	100			SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	
C31	2000		CC-22	BPD-002	DD-202	K072	811-002	DC-522	5HK-D2	Note 1
C32	1000		CC-21	SI1000	D6-102	TP52	GP2L-102	UC-521	5HK-D1	
C33	2000		CC-22	BPD-002	DD-202	K072	811-002	DC-522	5HK-D2	
C34	1000		CC-21	SI1000	D6-102	TP52	GP2L-102	UC-521	5HK-D1	
C35	5000		CC-25	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C36	2000		CC-22	BPD-002	DD-202	K072	811-002	DC-522	5HK-D2	
C37	2000		CC-22	BPD-002	DD-202	K072	811-002	DC-522	5HK-D2	
C38	10		CC-41	SI10	D6-100	T209	GP1K-100	UC-541	5GA-Q1	
C39	.1	400	CP-4-01	P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C40	.1	400	CP-4-01	P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C41	.1	400	CP-2-01	P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C42	.1	200	CP-2-01	P288-1	DF-104	CUB3P1		PT401	2TM-P1	
C43	5000		CC-25	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C44	100			SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	
C45	.1	600	CP-4-01	P688-1	DF-104	CUB6P1		PT601	6TM-P1	
C46	.47		CC-447	SI47	D6-470	TP39	GP1K-470	UC-5447	5GA-Q47	
C47	.1	400	CP-2-01	P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C48	47		CC-447	SI47	D6-470	TP39	GP1K-470	UC-5447	5GA-Q47	
C49	5000		CC-25	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C50	2000		CC-22	BPD-002	DD-202	K072	811-002	DC-522	5HK-D2	
C51	.01	600	CP-6-12	P688-01	DF-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C52	.01	600	CP-6-11	P688-01	DF-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C53	.001	600	CP-6-21	P688-001	DF-102	CUB6D1	GP2L-102	PT621	6TM-D1	
C54	.05	600	CP-5-15	P588-05	DF-502	CUB5S1		PT511	5TM-S5	
C55	.01	1000	CP-10-11	P1088-01		CUB16S1		PT1611	MB-S1	
C56	5000		CC-25	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C57	.1	600	CP-6-01	P688-1	DF-104	CUB6P1		PT601	6TM-P1	
C58	.01	600	CP-6-11	P688-01	DF-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C59	220	500	CM-522	1469-00025		22S5T22		MC2240		
C60	.01	600	CP-6-11	P688-01	DF-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C61A	.0022							PT522		
B	.0047		#CRP-3	#PA-110	#PC-100	#11ST-M1	#14D5-01	PT625	#V-1	
C	.0047							PT625		

PARTS LIST AND DESCRIPTIONS

CAPACITORS (cont)

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: CORONADO PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C62	.05	600	CP-6-15	P688-05	DF-503	CUB6S5		PT615	6TM-S5	
C63	.005	600	CP-6-25	P688-005	DF-502	CUB6D5	GP2-333-502	PT625	6TM-D5	
C64	.05	600	CP-6-15-9	P688-05	DF-503	CUB6S5		PT615	6TM-S5	
C65	.05	600	CP-6-15	P688-05	DF-503	CUB6S5		PT615	6TM-S5	
C66	4700	1000	CM-247A-1							
C67	.002	600	CP-6-22	P688-002	D6-202	CUB6D2	GP2-333-202	PT622	6TM-D2	
C68	4700	1000	CM-274A-1							
C69	.1	600	CP-6-01-3	P688-1	DF-104	CUB6P1		PT601	6TM-P1	
C70	.01	600	CP-6-11	P688-01	D6-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C71	.001	600	CP-6-21	P688-001	D6-102	CUB6D1	GP2L-102	PT621	6TM-D1	
C72	.001	600	CP-6-21	P688-001	D6-102	CUB6D1	GP2L-102	PT621	6TM-D1	
C73	.01	600	CP-6-11	P688-01	D6-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C74	.005	600	CP-6-25	P688-005	D6-502	CUB6D5	GP2-333-502	PT625	6TM-D5	
C75	.05	600	CP-6-15	P688-05	DF-503	CUB6S5		PT615	6TM-S5	
C76	3300	500	CM-339	1464-0004		1R5D39		MC1463	MS-34	
C77	330	500	CM-333A	1468-00035		5R5T33				
C78	220	500	CM-322	1469-00025		22R5T22		MC2240		
C79	680	500	CC-368	1479-0007		5R5T68			MS-37	Note 3
C80	5	5000	CEV-55-5K	HVD560-00000-47	DD80-4R7				50GA-Y47	
C81	820	500	CM-382			5R5T82				Note 3
C82	.05	600	CP-6-15	P688-05	DF-503	CUB6S5		PT615	6TM-S5	
C83	.03	1000	CO-10-13	P1088-03		CUB16S3		PT1613	MB-S1	
C84	.03	1000	CO-10-13	P1088-03		CUB16S3		PT1613	MB-S1	
C85	500	20000	CHV-35-20A	HV30C	TV3-502	MMU20T5	413	HV20035A	20DK-T5	
C86	.25	400	CP-4-025	P488-25		CUB4P25		PT4025	4TM-P25	
C87	47	4000								
C88	.05	600	CP-6-15	P688-05	DF-503	CUB6S5		PT615	6TM-S5	
C89	.05	600	CP-6-15	P688-05	DF-503	CUB6S5		PT615	6TM-S5	
C90	270			S1270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	Note 1
C91	270			S1270	D6-271	TP41	GP2K-271	UC-5327	5GA-T27	Note 1

Note 1. Not used in all Models.
Note 2. Some models use 820MMF in this application.
Note 3. Some models use 270MMF in this application.
* Items C61A, C61B, C61C, R69A, R69B, R69C are combined in one unit.

CONTROLS

ITEM No.	RATING: RESISTANCE	RATING: WATTS	REPLACEMENT DATA: CORONADO PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	2500Ω	½	PD-10A	* QJ-332	RTV-330	F1-17	UF252-T23	Contrast (Tapped ② 1500Ω Not used) Panel
B	500KΩ	½				R2-41	UB55A	Volume-Rear
C	Switch					KB-1	UB-28	Attach to R1B
R2A	1 Meg	½	P-17B	Q11-137	A47-1Meg-S	AB-69	U-54	Vert. Hold
B	Shaft		Not Req.	Not Req.	KS8-3	Not Req.	AK-4	Attach to R2A
R3A	50KΩ	½	P-18B	Q11-123	A47-50K-S	AB-51	U-35	Horiz. Hold
B	Shaft		Not Req.	Not Req.	KS8-3	AK-4	Not Req.	Attach to R3A
R4A	100KΩ	½	P-19B	Q11-127	A47-100K-S	AB-46	U-41	Brightness
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-4	Not Req.	Attach to R4A
R5A	5000Ω	½	P-2D	Q11-114	A47-5000-S	BX-10	SU-14	Vert. Linearity
B	Shaft		Not Req.	Not Req.	FKS-1/4	Not Req.	Not Req.	Attach to R5A
R6A	2.5Meg	½	P-5D	Q11-239	A47-2.5Meg-S	SX-23	SU-565	Vert. Size
B	Shaft		P-5D	Q11-239	FKS-1/4	Not Req.	Not Req.	Attach to R6A
R7A	1000Ω	½	P-1D	Q11-108	A47-1000-S	AB-5	U-4	AM Rejection
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R7A
R8A	2.5Meg	½	P-5D	Q11-239	A47-2.5Meg-S	SX-23	SU-565	AGC
B	Shaft		Not Req.	Not Req.	FKS-1/4	Not Req.	Not Req.	Attach to R8A

* CONCENTRIKIT EQUIVALENT KIT K-2 BASE ELEMENTS & SHAFTS B17-110X & P2-118 (Panel) B13-133 & RI-203 (Rear) & SWITCH 76-1.

RESISTORS

ITEM No.	RATING: OHMS	RATING: WATT	REPLACEMENT DATA: CORONADO PART No.	IRC PART No.	NOTES
R9	1 Meg	½		BTS-1 Meg	
R10	1 Meg	½		BTS-1 Meg	
R11	470Ω	½		BTS-470	
R12	22KΩ	½		BTS-22K	
R13	390KΩ	½		BTS-390K	
R14	470KΩ	½		BTS-470K	
R15	100Ω	1		BTS-100	
R16	4700Ω	1		BTS-4700	
R17	10KΩ	1		BTS-10K	
R18	100KΩ	1		BTS-100K	
R19	10KΩ	1		BTS-10K	
R20	10KΩ	2		BTS-10K	
R21	4700Ω	2		BTS-4700	
R22	82000Ω	2		BTB-8200	
R23	22KΩ	1	RC-223-3	BTS-22K	
R24	47Ω	1	RC-470-3	BTS-47	
R25	100Ω	1	RC-101-3	BTS-100	
R26	27KΩ	1	RC-273-3	BTS-27K	
R27	47Ω	1	RC-470-3	BTS-47	Note 1
R28	820Ω	1		BTS-820	Note 1
R29	1 Meg	1	RC-105-3	BTS-1 Meg	
R30	100Ω	1	RC-101-3	BTS-100	
R31	47000Ω	1	RC-473-3	BTS-4700	
R32	180Ω	1	RC-181-3	BTS-180	
R33	330Ω	1	RC-331-3	BTS-330	
R34	470KΩ	1	RC-474-3	BTS-470K	
R35	1 Meg	1	RC-105-3	BTS-1 Meg	
R36	470KΩ	1	RC-474-3	BTS-470K	
R37	68000Ω 5%	1	RC-683-3	BTS-6800 5%	
R38	470KΩ	1	RC-474-3	BTS-470K	
R39	3900Ω	1		BTS-390	Note 2
R40	12KΩ	1		BTA-12K	
R41	82000Ω 5%	2			
R42	82000Ω 5%	2			
R43	220KΩ	1	RC-224-3	BTS-220K	
R44	100KΩ	1	RC-104-3	BTS-100K	
R45	33KΩ	1	RC-333-3	BTS-33K	
R46	22KΩ	1	RC-223-3	BTS-22K	

ITEM No.	RATING: OHMS	RATING: WATT	REPLACEMENT DATA: CORONADO PART No.	IRC PART No.	NOTES
R47	22KΩ	½	RC-223-3	BTS-22K	
R48	1 Meg	½	RC-105-3	BTS-1 Meg	
R49	1 Meg	½	RC-105-3	BTS-1 Meg	
R50	270KΩ	½	RC-274-3	BTS-270K	
R51	68KΩ	½	RC-683-3	BTS-68K	
R52	15KΩ	½	RC-153-3	BTS-15K	
R53	7500Ω	1	RC-752-5		
R54	330Ω	1	RC-331-3	BTS-330	
R55	470KΩ	1	RC-474-3	BTS-470K	
R56	150Ω	1	RC-151-5	BTA-150	
R57	18KΩ	1	RC-183-5	BTA-18K	
R58	2000Ω	10	RW-202-17		
R59	1 Meg	½	RC-105-3	BTS-1 Meg	
R60	470KΩ	½	RC-474-3	BTS-470K	
R61	56KΩ	½	RC-563-3	BTS-56K	
R62	100KΩ	½	RC-104-3	BTS-100K	
R63	100KΩ	½	RC-104-3	BTS-100K	
R64	10KΩ	½	RC-103-3	BTS-10K	
R65	1 Meg	½	RC-105-3	BTS-1 Meg	
R66	1500Ω	½	RC-152-3	BTS-1500	
R67	12KΩ	½	RC-123-3	BTS-12K	
R68	2200Ω	½	RC-222-3	BTS-2200	
R69A	22K	½		BTS-22K	
B	8200	½	#CRP-3	BTS-8200	
C	8300	½		BTS-8300	
R70	100KΩ	½	RC-104-3	BTS-100K	
R71	680KΩ	½	RC-684-3	BTS-680K	
R72	100KΩ	½	RC-104-3	BTS-100K	
R73	220KΩ	½	RC-224-3	BTS-220K	
R74	2.2Meg	½	RC-225-3	BTS-2.2Meg	
R75	560Ω	½	RC-561-3	BTS-560	
R76	10KΩ 5%	½	RC-103-3	BTS-10K 5%	Note 3
R77	560Ω	½		BTS-560	
R78	56Ω	½		BTS-560	
R79	100KΩ	½	RC-104-3	BTS-100K	
R80	100KΩ	½	RC-104-3	BTS-100K	
R81	27KΩ	½	RC-273-3	BTS-27K	
R82	18KΩ	2	RC-183-8	BTS-18K	

RESISTORS (cont)

ITEM No.	RATING: OHMS	RATING: WATT	REPLACEMENT DATA: CORONADO PART No.	IRC PART No.	NOTES
R83	470KΩ	½	RC 474-2	BTS 470K	
R84	4.7Meg	½	RC-475-3	BTS-4.7Meg	
R85	2200Ω	½	RC-222-3	BTS-2200	
R86	4700Ω	½		BTS-4700	
R87	68KΩ	½		BTS-68K	
R88	270KΩ	½	RC-274-2	BTS-270K	
R89	330KΩ	½	RC-334-2	BTS-330K	
R90	22K Ω	1	RC-223-5	BTA-22K	
R91	680KΩ	1	RC-684-3	BTS-680K	
R92	56Ω	1	RC-560-3	BTS-56	
R93	22Ω	½	RC-220-3	BTS-22	

Note 1. Some models may use a 330Ω resistor in this application.
Note 2. Some models may use a 2700Ω resistor in this application.
Note 3. Some models may use a 12KΩ resistor in this application.
Note 4. Not used in all versions.
* Items R68A, R69B, R69C, C6A, C6B, C6C are combined in one unit.

ITEM No.	RATING: OHMS	RATING: WATT	REPLACEMENT DATA: CORONADO PART No.	IRC PART No.	NOTES
R94	6200Ω	2	RC-622-5	BTB-6200	
R95	3.3Ω	1	RC-3R3-5		
R96	680KΩ	½	RC-684-5	BTA-680K	
R97	2400Ω	10	RW 242-17		
R98	4.7Ω 5%	10	RW-47G-15		
R99	150Ω 5%	½	RC-151-3	BTS-150 5%	
R100	330KΩ	½	RC-334-3	BTS-330K	
R101	10Ω	½		BTS-10	Note 4
R102	100Ω	½	RC-101-3	BTS-100	
R103	100Ω	½	RC-101-3	BTS-100	

TRANSFORMER (FILAMENT)

ITEM No.	RATING: PRI.	RATING: SEC. 1	RATING: SEC. 2	REPLACEMENT DATA: CORONADO PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	RCA TYPE No.	Halldorson PART No.	Thordarson PART No.
T1	117VAC	6.3VAC @ 3.0A	② 4.3A	T-139		P-2941①②	F-18X①②			21F15

① Drill one new mounting hole.
② Tape 6.3V center tap.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE: PRI.	IMPEDANCE: SEC.	REPLACEMENT DATA: CORONADO PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	NOTES
T7	4.3KΩ	3.2Ω	T-153	A-3877	A-2930	S-3X	21D01	24S41	

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA: CORONADO PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	RCA TYPE No.	Halldorson PART No.	Thordarson PART No.
T2	Horiz. Output Trans.	T-124D	A-8130 ⑤	HVO-7 ⑤	D-14 ⑤	231T1 ⑤	FB401 ⑤	FLY-3 ⑤
T3	Vert. Output Trans.	T-116B	A-8143	A-9036	A-99X	204T2①	21B03	20S53
T4	Yoke-Horiz.(16MH)	DY-12M	DY-9A	MDF-72	Y-17-1	309D1①	DF603	Y-7
B	Vert. (40MH)							
T5	Horiz. Linearity(4-29MH)	LM7724	WC-3C ⑤	MWC-1C ⑤	WC-1C ⑤	215R1	BF8001③	WC-13C ⑤
T6	Width (8-21MH) (3.5-8MH)	LM7724-3	WC-5	MWC-1	WC-1L	214R1①	RF600	WC-20

① Enlarge mounting hole.
② Connect to coded blue and red terminals.
③ Connect to coded #1 and #2 terminals.
④ Connect to coded #3 and #4 terminals.
⑤ Drill new mounting hole.
⑥ Use original yoke network.
⑦ Drill new mounting hole.

*HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

ORIGINAL TERMINAL CONNECTIONS	Stancor Replacement Connections	Merit Replacement Connections	Triad Replacement Connections	RCA Replacement Connections	Halldorson Replacement Connections	Thordarson Replacement Connections
3	3	3	HV Rect Plate Lead	HV Rect Plate Lead	3	3
3	3	3	P & 3	3	2	2
1	1	1	1	1	1	1
4	4	4	4	10	4	4
5	5	5	5	9	5	5
6	6	6	8	4	6	6
Connect Width Coil Across 4 & 5	4 & 5	4 & 5	4 & 5	4 & 5	4 & 5	4 & 5

SPEAKER

ITEM No.	RATINGS: SIZE	FIELD	V C	IMP	REPLACEMENT DATA: CORONADO PART No.	JENSEN PART No.	QUAM PART No.	NOTES
SP1	4"X 8"	PM		3.2Ω	PMS-1	6S2S	4S41	① Alternate PM speaker.
	10"	PM		3.2Ω	PMS-2 ①	10J1	10A2	
	12	PM		3.2Ω	PMS-4 ①	12J1	12A21	

CORONADO MODELS 45TV11-1-43-9037A -9028A, -9088A, -9035A, -9037A, -9038A, -9039A, -9000A, -9001A, -9092A, -9094A, -9095A, -9096A, -9097A, -9098A, -9130A, -9131A (Series XT-100)

PARTS LIST AND DESCRIPTIONS (Continued)

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	CORONADO PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Ant. Trans.	.9Ω	0Ω					
L2	Ant. Trans.	.9Ω	0Ω					
L3	Ant. Coil	0Ω						Channel 13 position
L4	Ant. Coils	0Ω						
L5	Fil. Choke	0Ω						
L6	Neut. Coil	0Ω						
L7	RF Coil	0Ω						Channel 13 position
L8	RF Coils	0Ω						
L9	Mixer Grid Coil	0Ω						Channel 13 position
L10	Mixer Grid Coils	0Ω						
L11	Osc. Coil	0Ω						Channel 13 position
L12	Osc. Coils	0Ω						
L13	Osc. Coil	0Ω						Channel 6 position
L14	1st Video IF	.5Ω						
L15	RF Choke	4.6Ω		LC-11	19-7047		4630	52 Microhenries
L16	Fil. Choke	0Ω		LC-1	19-1001		4606	1.4 Microhenries
L17	2nd Video IF	.1Ω		LV-9	17-1003	TV-102 *	6249	
L18	Fil. Choke	0Ω		LC-1	19-1001		4606	1.4 Microhenries
L19	3rd Video IF	.2Ω	.2Ω	LV-9	17-1003	TV-102 *	6249	
L20	4th Video IF	.2Ω	.2Ω	LV-9	17-1003	TV-102 *	6249	
L21	Series Peaking Coil	8.5Ω		LP-17	19-3160 ■	TV-184 ■	4644 ■	145 Microhenries; Wound on 10KΩ resistor
L22	Shunt Peaking Coil	9.5Ω		LP-12A	19-3500	TV-188	6174	440 Microhenries
L23	4.5MC Trap	2.6Ω	2.6Ω	LT0-13	16-3445	TV-113	6203	
L24	Series Peaking Coil	8.5Ω		LP-18	19-3160 ■	TV-184 ■	4644 ■	155 Microhenries
L25	Series Peaking Coil	9.5Ω		LP-12A	19-3500	TV-188	6174	440 Microhenries
L26	Sound IF	1.6Ω		LIF-11	16-3445 ▲	TV-113 ▲	1470A ▲	
L27	Quadrature Coil	4.2Ω		LIF-8-C	16-3445 †	TV-113 †	1470A	
L28	Horiz. Osc.	54Ω		LH0-2-E	19-1576	TV-163	6210	

* Enlarge mounting holes.
■ Parallel with 10KΩ resistor.
▲ Reverse coil in can.
† Use one winding only.

FILTER CHOKE

ITEM No.	RATINGS			REPLACEMENT DATA					
	TOTAL DIRECT CURRENT	D.C. RESISTANCE	INDUCTANCE (0 CURRENT 1000 ∿)	CORONADO PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.
L29	.230A	66Ω	2HY	LC-9	C-2325	C-2996	C-17X	C5030 ①	

① Drill one new mounting hole.

SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA						NOTES
	CURRENT	CORONADO PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	SELETRON PART No.	
M1	.270A	SR-350	1238A	RS350	6S350	350A	6Q4	
M2	.270A	SR-350	1238A	RS350	6S350	350A	6Q4	

FUSES

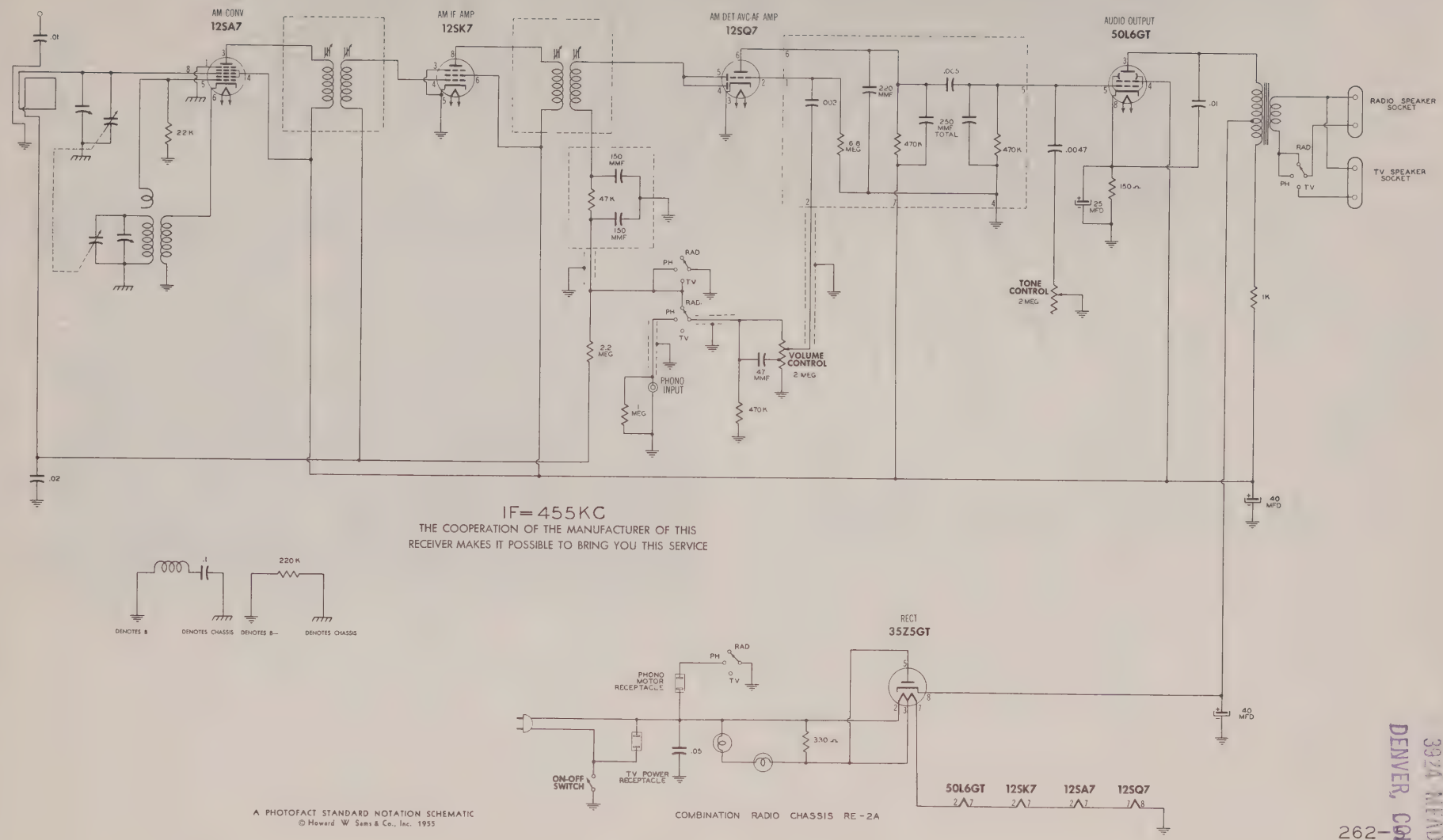
ITEM No.	TYPE	RATING	REPLACEMENT DATA					
			CORONADO PART No.		LITTELFUSE PART No.		BUSS PART No.	
			FUSE	HOLDER	FUSE	HOLDER	FUSE	HOLDER
M3	3AG-P/T Slo-Blo	1½A 250V	FE-4		31501.5 (1½A-3AG P/T-Slo-Blo)		MDV 1½	
M4	3AG P/T	½A 250V	FE-5		318.500 (½A-3AG P/T)		GJV-½	

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA			NOTES
		CORONADO PART No.	SYLVANIA PART No.	FEDERAL PART No.	
M5	1N64A		1N60 or 1N132	1N60 or 1N64A	Video Detector

MISCELLANEOUS

ITEM No.	PART NAME	CORONADO PART No.	NOTES
M6	Tuner		VHF
M7	Focus Magnet	LF-8	Includes centering device
M8	Ion Trap	IT-1A	Alternate part #IT-5
M9	Switch		Antenna
B2	Trimmer Cap.	CT-6	Horiz. Drive (25-280MMF)



RADIO SCHEMATIC

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TROUBLE SHOOTING AIDS (cont)

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POWER

DEAD SET

If filaments fail to light, check AC interlock assembly. Check switch on volume control and T1. If V6, V10, V12, V13, V15 and V16 fail to light, check these tubes, since these tubes are connected in series. If filaments light check M1 and M2. Check M3 fuse, R98 and C1. Check B+ filter and decoupling network.

SMALL AND/OR DIM PICTURE

Check M1 and M2. Check C1. Check B+ filter and decoupling network.

HIGH VOLTAGE

LOSS OF HIGH VOLTAGE

Check by substitution V14, V15, V16 and V17. Check M4 fuse. Check waveform W13.

If Satisfactory	If Unsatisfactory
Check T2, T4A, T5, C83, C84, C86, C81, C82, R94 and other associated components.	Check L28, C76, C79, C77, R86, R88, R85 and other associated components.

INSUFFICIENT HIGH VOLTAGE

Check by substitution V15 and V16. Adjust B2. Check M1 and M2. Check C1, R94, C79, C78, R89 and other associated components.

BLOOMING

Check by substitution V15, V16 and V17. Check M1 and M2. Check C1, T2, and other associated components.

GENERAL

RASTER, SOUND, NO PICTURE

Follow procedure outlined under "Loss of Video".

RASTER, PICTURE, NO SOUND

Follow procedure outlined under "Weak or No Sound".

RASTER, NO SOUND, NO PICTURE

Check by substitution V1, V2, V3, V4, V5 and V6. Check video IF components for failure or change of value.

NO RASTER, NO SOUND

Follow procedure outlined under "Dead Set".

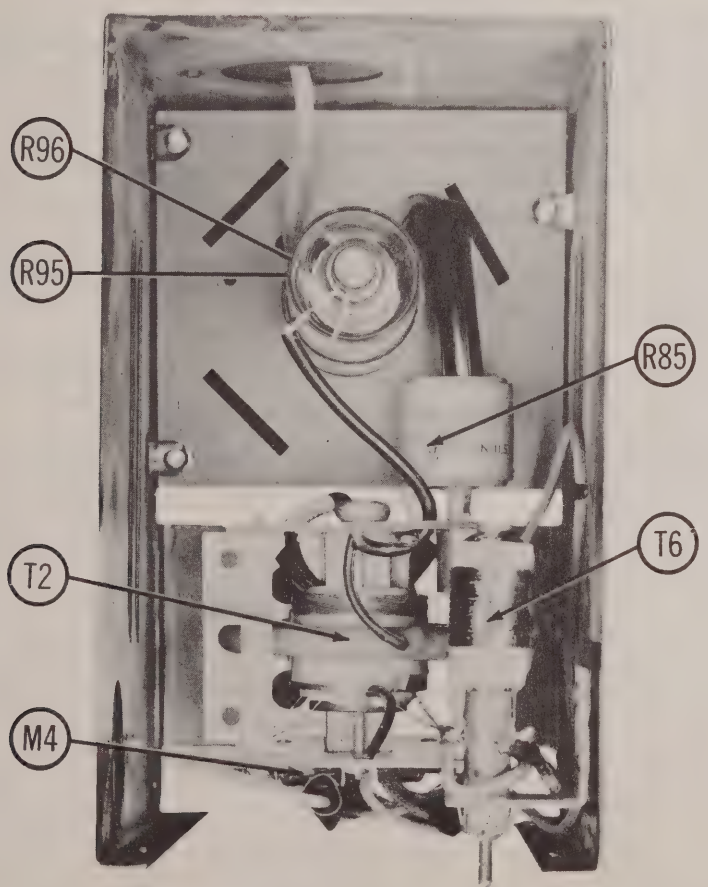
KEYSTONE EFFECT

Check T4 and its associated components.

INTERMITTENT STREAKS

Check high voltage section for corona discharge and arcing.

Symptoms shown are assumed and are not indicative of the quality and workmanship of this equipment.



HIGH VOLTAGE COMPARTMENT

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustments of the VHF tuner oscillator circuit may be accomplished by removing the channel selector and fine tuning knobs.

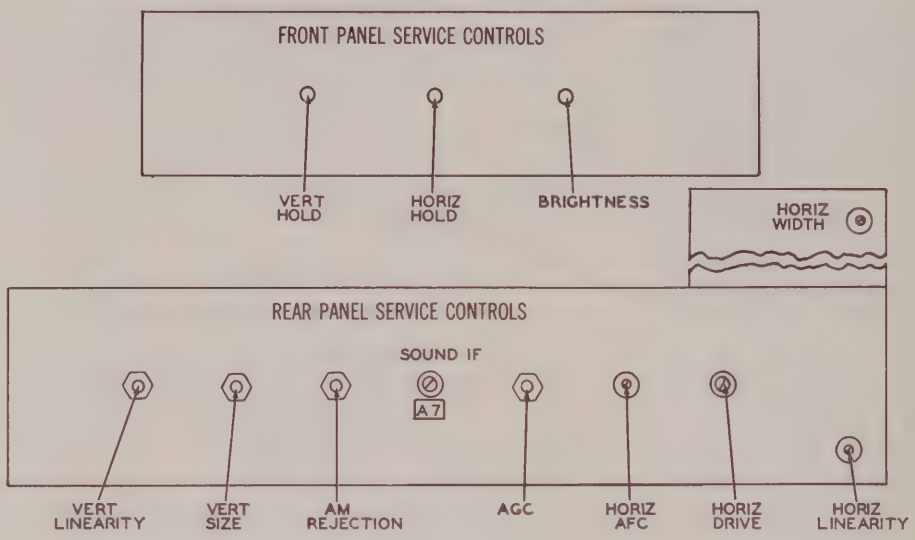
PICTURE TUBE SAFETY GLASS CLEANING

For picture tube safety glass cleaning, it is necessary to remove chassis. (See disassembly instructions).

PICTURE TUBE REMOVAL

For picture tube removal it is necessary to remove chassis. (See disassembly instructions).

SERVICE ADJUSTMENT LOCATION



HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Adjustment of the horizontal oscillator circuit can be made from the rear panel of the chassis. Set the horizontal hold control at the mid-position of its range and adjust the horizontal frequency slug (L28) until the picture synchronizes horizontally.

SOUND IF DETECTOR BUZZ ADJUSTMENT - AM REJECTION CONTROL

To eliminate sound IF detector buzz, adjust the "AM Rejection Control" located on rear apron of chassis for maximum volume and minimum buzz. If results are unsatisfactory see Alignment Instructions on page 6.

FUSES

Two fuses are used. One for horizontal sweep circuit protection and one for LV power supply protection. (For location, see tube placement chart).

CENTERING

Centering is accomplished mechanically by means of a centering lever on the PM focusing assembly. Adjust the centering lever from side to side, and up and down until the picture is properly centered.

BUILT-IN ANTENNA TUNING

Built-in antenna can be adjusted from side of the cabinet. Adjust for a picture of maximum contrast and minimum ghosts.

DISASSEMBLY INSTRUCTIONS

1. Remove 7 push-on type control knobs from front panel.
2. Remove 6 wood screws. Remove rear cover.
3. Remove 2 wood screws. Remove antenna bracket.
4. Remove 2 wood screws. Remove interlock bracket.
5. Disconnect speaker leads.
6. Remove 4 speaker nuts. Remove speaker.
7. Remove 6 chassis bolts. Remove chassis.

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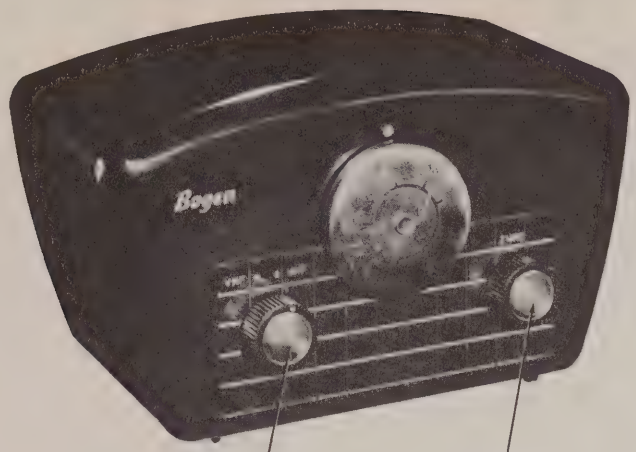

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DAVID BOGEN
MODEL UCT (UHF Conv.)

DAVID BOGEN
MODEL UCT (UHF Conv.)

TRADE NAME	David Bogen Model UCT
MANUFACTURER	David Bogen Co., Inc., 29 Ninth Ave., New York 14, N.Y.
TYPE SET	AC Operated All-Channel UHF Converter
TUBES (Two)	Types 6AF4 (or) 6T4 Oscillator, 6BZ7 (or) 6BQ7 IF Amp.
POWER SUPPLY	110-120 Volts AC RATING .05 Amp. @ 117 Volts AC
TUNING RANGE	Channels 14 thru 83

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Care should be exercised during converter alignment since the stagger tuned IF's may oscillate if not properly aligned.
The following test equipment is required:
UHF Sweep Signal Generator (470-890MC)
UHF Single Signal Generator (470-890MC)
VHF single Signal Generator (76-88MC)
High Gain Oscilloscope
Connect a 300Ω detector box (Fig.1) to converter output terminals.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
1.	Direct	Across UHF antenna terminals.	660MC (40MC Swp)	Across output terminals 76MC 82.5MC 88MC	29	Vert. Amp. to detector (Fig.1). Low side to chassis.	A1, A2	Adjust for response similar to Fig.2. A2 is adjusted by compressing or expanding coil turns.
2.	"	"	Use UHF single signal generator	470MC	14	"	A3	Adjust for maximum marker amplitude.
3.	"	"	"	890MC	83	"		Readjust A3 for maximum marker amplitude.
4.	Repeat step 2. If the low and high frequency ends of the band cannot be made to track, change the oscillator tube and repeat entire precedure.							
5.	Direct	Across UHF antenna terminals.	Use UHF single signal generator	660MC	45	Vert. Amp. to detector (Fig.1). Low side to chassis.	A4	Adjust for maximum marker amplitude.

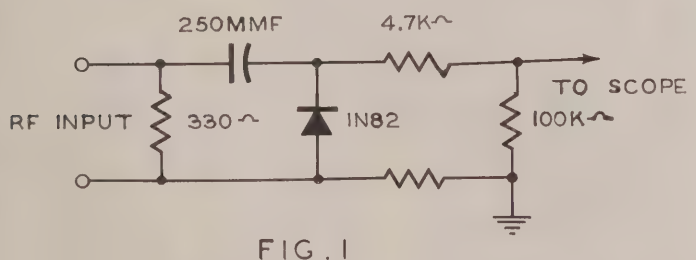


FIG. 1

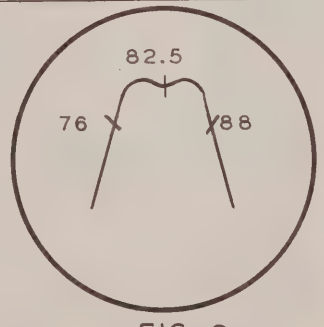


FIG. 2

"The listing of any available replacement part herein does not constitute in any case a recommendation, warranty or guaranty by Howard W. Sams & Co., Inc., as to the quality and suitability of such replacement part. The numbers of these parts have been compiled from information furnished to Howard W. Sams & Co., Inc., by the manufacturers of the particular type of replacement part listed." "Reproduction or use, without express permission, of editorial or pictorial content, in any manner, is prohibited. No patent liability is assumed with respect to the use of the information contained herein. Copyright 1955 by Howard W. Sams & Co., Inc., Indianapolis 5, Indiana, U. S. of America. Copyright under International Copyright Union. All rights reserved under Inter-American Copyright Union (1910) by Howard W. Sams & Co., Inc." Printed in U. S. of America

PARTS LIST AND DESCRIPTIONS

DAVID BOGEN
MODEL UCT

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		David Bogen PART No.	STANDARD REPLACEMENT		
V1A	UHF Oscillator	6AF4	6AF4	7DK	
B	UHF Oscillator	6T4	6T4	7DK	
V2A	IF Amplifier	6BZ7	6BZ7	9AJ	
B	IF Amplifier	6BQ7	6BQ7	9AJ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	David Bogen PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	■20	150		AFH2-10		B010		FP211	TVL-2422	
B	▲30	150								
C2	1			SIINP0	TCZ-1				5TCCB-V1	
C3	1			SIINP0	TCZ-1				5TCCB-V1	
C4	.25-3									
C5	1			SIINP0	TCZ-1				5TCCB-V1	
C6	1000			SI1000	D6-102	TM5D1	GP2L-102	UC-521	5HK-D1	
C7	2.2			SI2.2NP0	TCZ-2.2				5TCCB-V22	
C8	.22									
C9	1000			SI1000	D6-102	TM5D1	GP2L-102	UC-521	5HK-D1	
C10	1-3									
C11	6									
C12	1000			SI1000	D6-102	TM5D1	GP2L-102	UC-521	5HK-D1	
C13	47			SI47	D6-470		GP1K-470	UC-5447	5GA-Q47	
C14	5			SI5NP0	TCZ-4.7		N750K-050		5TCCB-V5	
C15	1000			SI1000	D6-102	TM5D1	GP2L-102	UC-521	5HK-D1	
C16	.047	400		P488-047		PJ2S5		PT4147	4TM-S47	

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	David Bogen PART No.	IRC PART No.	
R1	470KΩ	½		BTS-470K	
R2	470KΩ	½		BTS-470K	
R3	10KΩ	½		BTS-10K	Note 1
R4	1000Ω	½		BTS-1000	Note 2
R5	100Ω	½		BTS-100	Note 3
R6	560Ω	1		BTA-560	

Note 1. Some models may use a 15KΩ resistor in this application.
Note 2. Some models may use a 2200Ω resistor in this application.
Note 3. Some models may use a 150Ω resistor in this application.

TRANSFORMER (POWER)

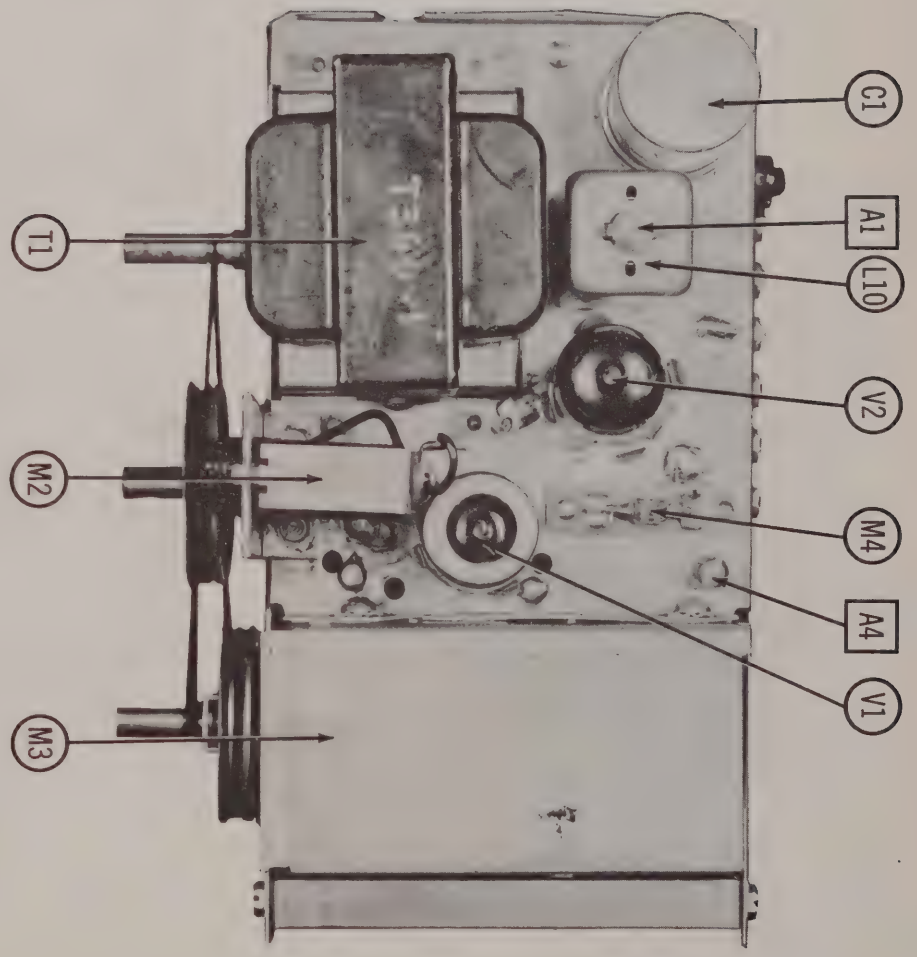
ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	David Bogen PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.
T1	117VAC @ .18A	120V @ .039A tap @ 6.3VAC @ .86A								

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	David Bogen PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1A	UHF Ant. Coil	0Ω						
B	UHF Osc. Coil	0Ω						
L2	UHF Ant. Coil End Inductor	0Ω						
L3	RF Choke	0Ω		U406-2				
L4	Cathode Choke	0Ω		U407-1				

(CONT'D ON NEXT PAGE)

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

COILS (cont)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA: David Bogen PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L5	Fil. Choke	.1Ω		U407-2				
L6	Fil. Choke	0Ω		U407-1				
L7	UHF IF Coupling	0Ω		U406-1				
L8	Cathode Choke	0Ω		U406-3				
L9	RF Choke	.8Ω		U501				1 Microhenries IRC part #CLA
L10	UHF IF Output Coil	0Ω	0Ω	U409				

SELENIUM RECTIFIER

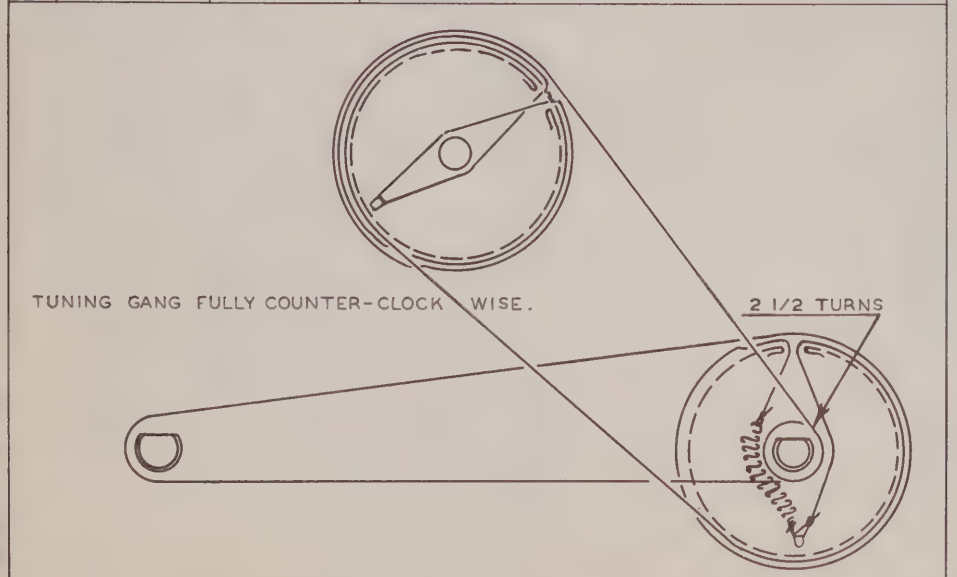
ITEM No.	RATING: CURRENT	REPLACEMENT DATA: David Bogen PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	SELETRON PART No.	NOTES
M1	.039A		1002A	RS65	6S65	65	8J1	

CRYSTAL DIODES

ITEM No.	ORIG. TYPE	REPLACEMENT DATA: David Bogen PART No.	SYLVANIA PART No.	FEDERAL PART No.	NOTES
M4	1N72 or 1N82		1N82 or 1N82A	1N82	UHF Mixer

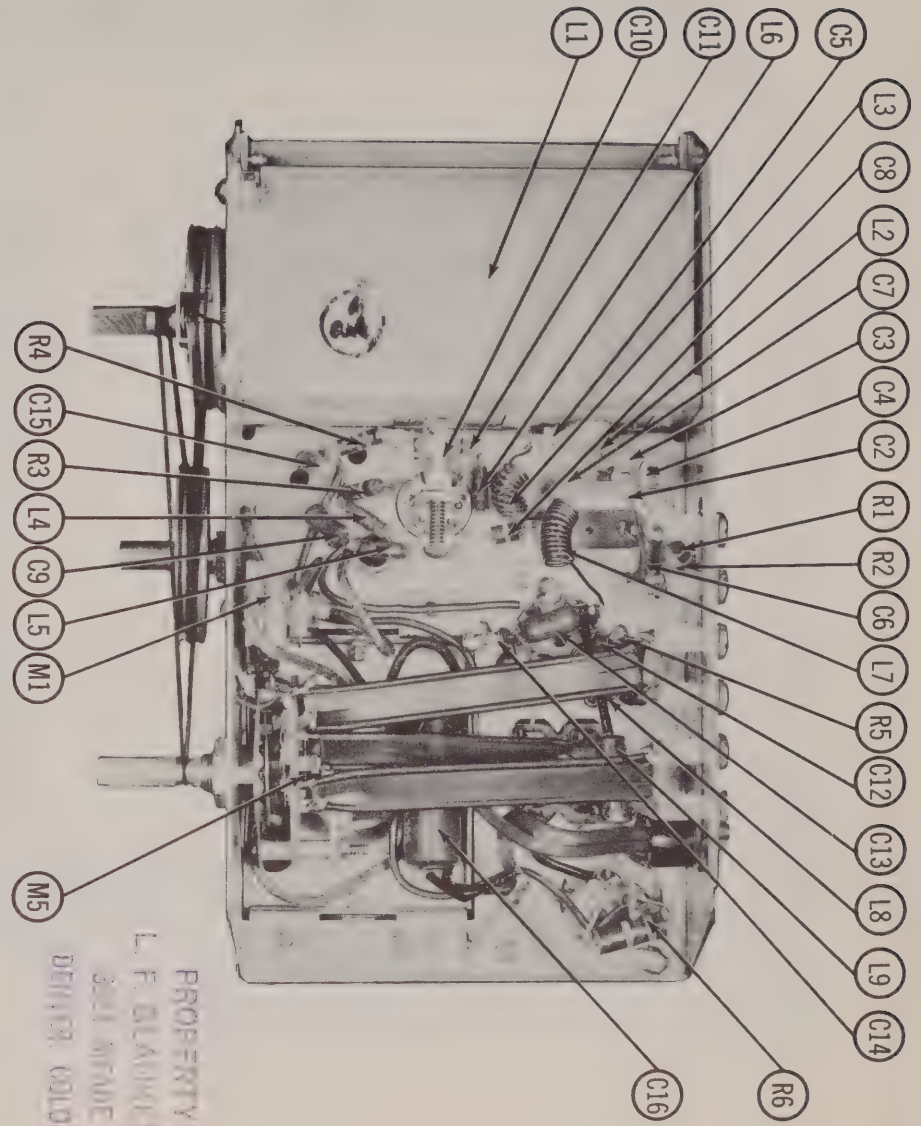
MISCELLANEOUS

ITEM No.	PART NAME	David Bogen PART No.	NOTES
M2	Dial Light		Type #51
M3	Inductuner		
M5	Switch	S384	Function Selector



DIAL CORD STRINGING

CHASSIS—BOTTOM VIEW



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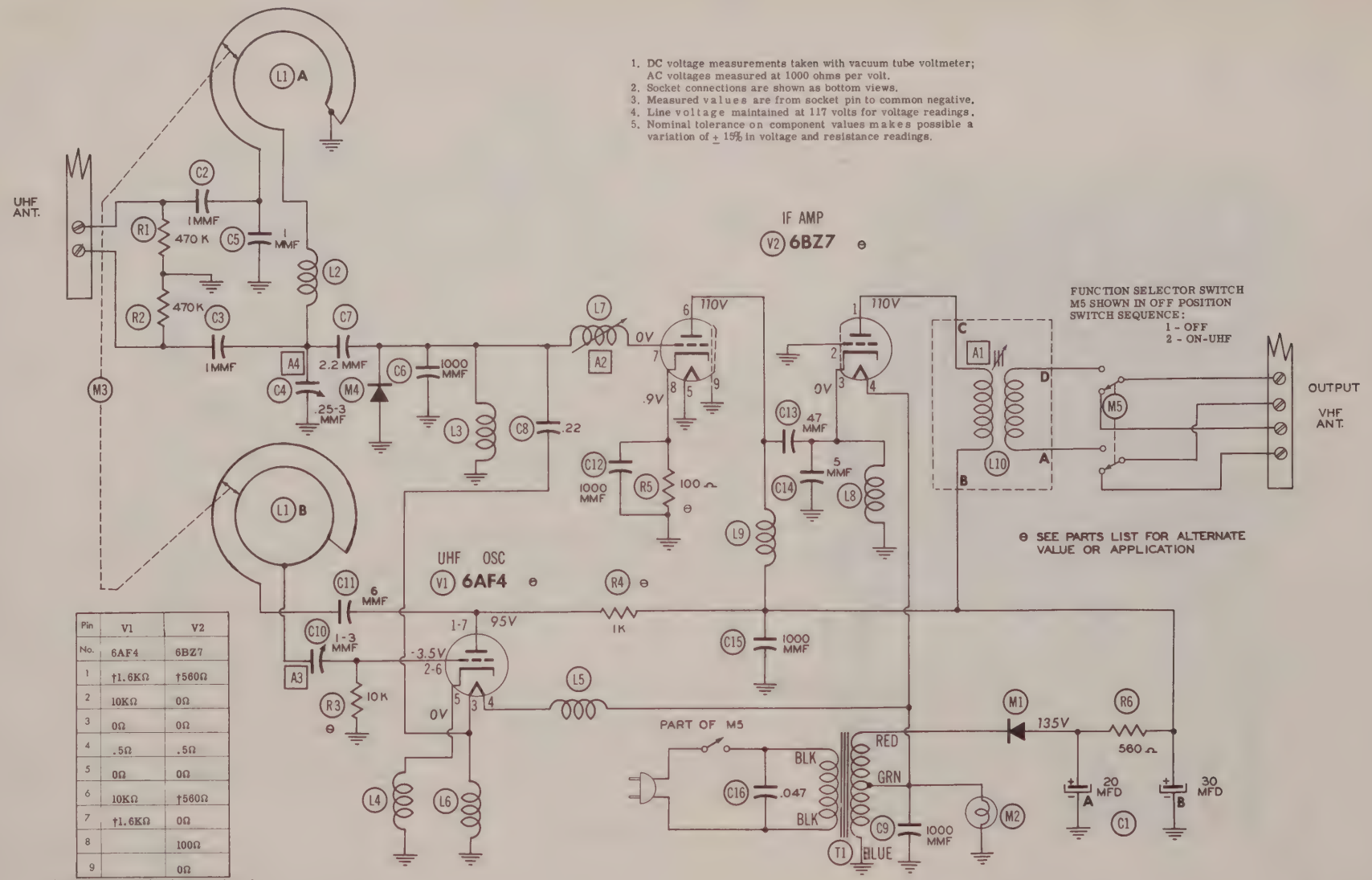
DAVID BOGEN MODEL UCT

DAVID BOGEN MODEL UCT



Pin No.	V1 6AF4	V2 6BZ7
1	†1.6KΩ	†560Ω
2	10KΩ	0Ω
3	0Ω	0Ω
4	.5Ω	.5Ω
5	0Ω	0Ω
6	10KΩ	†560Ω
7	†1.6KΩ	0Ω
8		100Ω
9		0Ω

† MEASURED FROM OUTPUT OF M1

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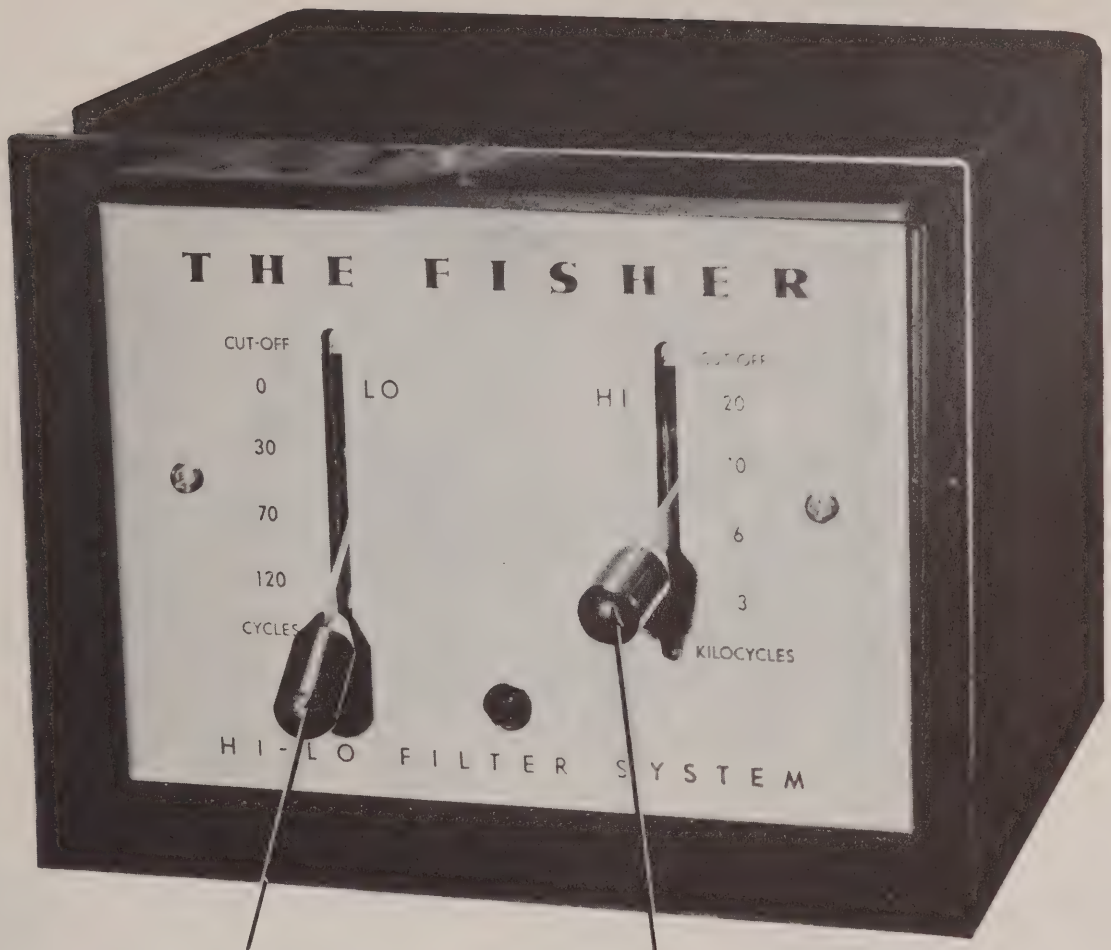
FISHER
MODEL 50-F



LO FREQ. SWITCH

HI FREQ. SWITCH

FISHER
MODEL 50-F

TRADE NAME	Fisher Model 50-F
MANUFACTURER	Fisher Radio Corp., 21-21 44th Drive, Long Island City 1, N. Y.
TYPE SET	AC Operated Hi-Lo Audio Filter System
TUBES (ONE)	Type 12AX7 AF Amp. -Cathode Follower
POWER SUPPLY	105-125 Volts AC-50/60 Cycles RATING .05 Amp. @ 117 Volts AC

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PARTS LIST AND DESCRIPTIONS

FISHER MODEL 50-F

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		FISHER PART No.	STANDARD REPLACEMENT		
V1	AF Amp-Cathode Follow	12AX7	12AX7	9A	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	FISHER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	■30	150	C-515-122	AFH3-16		C007		FP311.4	TUL-3534	
B	▲15	150								
C	15	150								
C2	.01	200	C-68P103M2	P288-01	D6-103	PJ2S1	GP2-333-103	PT411	2TM-S1	
C3	.22	200	C-68P224V2							
C4	560		C-3336	SI560	D6-561		GP2K-561	UC-5356	5GA-T56	
C5	.0013	200	C-68P132K2							
C6	.0025	200	C68P252K2							
C7	560		C-3336	SI560	D6-561		GP2K-561	UC-5356	5GA-T56	
C8	.0013	200	C-68P132K2							
C9	.0025	200	C-68P252K2							
C10	.047	200	C-68P473K2							
C11	.047	200	C-68P473K2							
C12	.022	200	C-68P223K2							
C13	.022	200	C-68P223K2							
C14	.01	200	C-68P103K2							
C15	.01	200	C-68P103K2							
C16	.01	200	C-68P103M2	P288-01	D6-103	PJ2S1	GP2-333-103	PT411	2TM-S1	
C17	.1	200	C-68P104M2	P288-1	DF-104	PJ2P1		PT401	2TM-P1	

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	FISHER PART No.	IRC PART No.	
R1	1Meg	1/2	RC-20BF105K	BTS-1Meg	
R2	1000Ω	1/2	RC-20BF102K	BTS-1000	
R3	18KΩ	1/2	RC-20BF183K	BTS-18K	
R4	82KΩ	1/2	RC-20BF823K	BTS-82K	
R5	27KΩ	1/2	RC-20BF273K	BTS-27K	
R6	220KΩ	1/2	RC-20BF224K	BTS-220K	

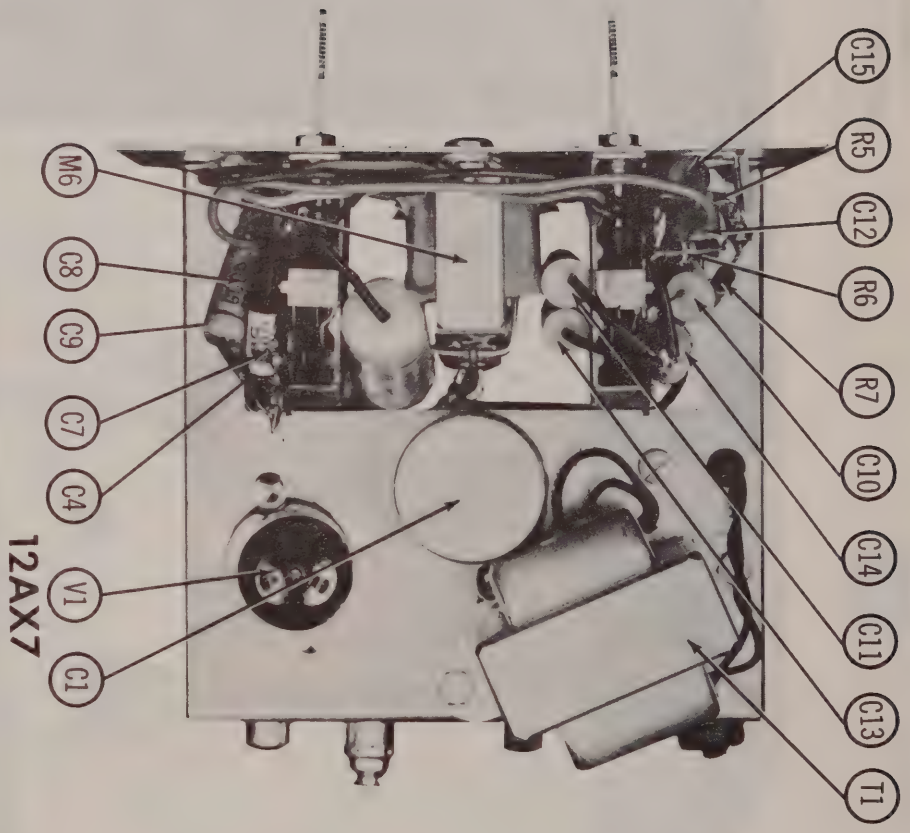
ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	FISHER PART No.	IRC PART No.	
R7	220KΩ	1/2	RC-20BF224K	BTS-220K	
R8	1Meg	1/2	RC-20BF105K	BTS-1Meg	
R9	2200Ω	1/2	RC-20BF222K	BTS-2200	
R10	47KΩ	1/2	RC-20BF473K	BTS-47K	
R11	10KΩ	1/2	RC-20BF103K	BTS-10K	
R12	10KΩ	1/2	RC-20BF103K	BTS-10K	
R13	4700Ω	1/2	RC-20BF472K	BTS-2700	Note 1

Note 1: Not used in all models.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	FISHER PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.
T1	117VAC @ .05A	115VAC .005ADC	6.3VCT @ .49A		515-118	PS-8415				

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

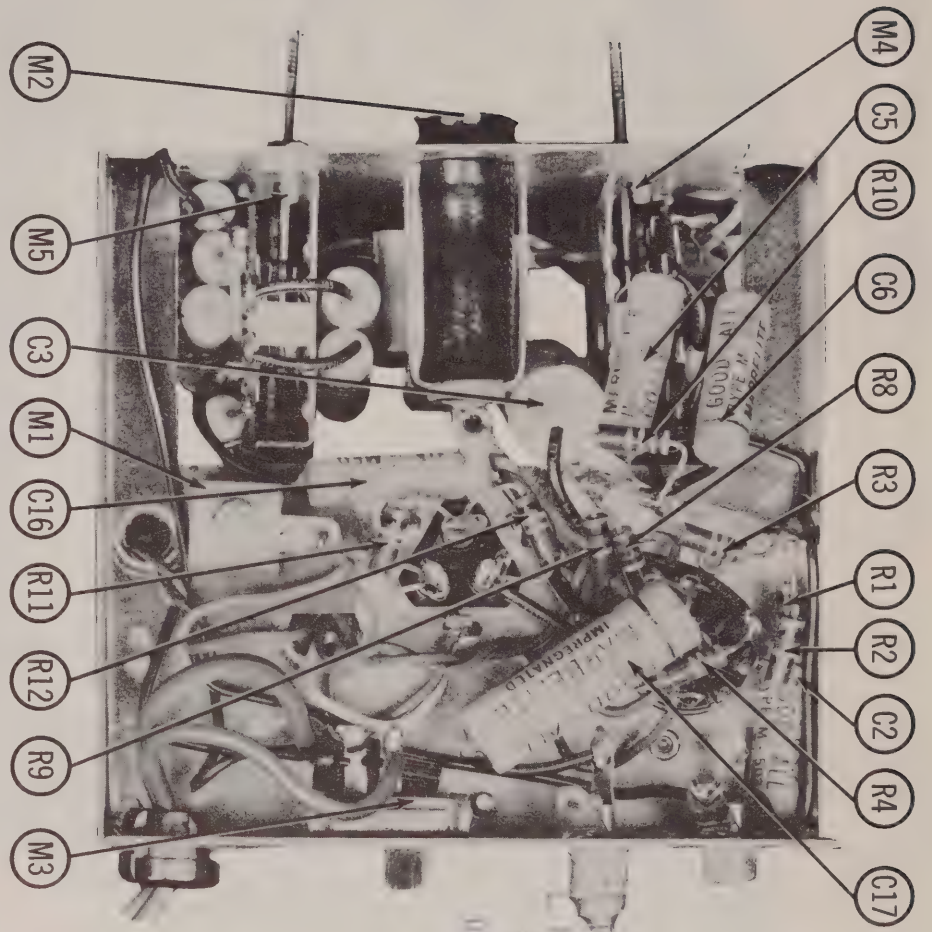
SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA						NOTES
	CURRENT	FISHER PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	SELETRON PART No.	
M1	.005	SR-50011-1	1159	CR-20	8S20	10	8Y1	

MISCELLANEOUS

ITEM No.	PART NAME	FISHER PART No.	NOTES
M2	Dial Light	I-50009-2	#51 - Bayonet
M3	Switch	S-515-119	On-Off
M4	Switch	S-515-117	High Frequency
M5	Switch	S-50005	Low Frequency
M6	Tone Choke	L-515-115-3	

CHASSIS—BOTTOM VIEW



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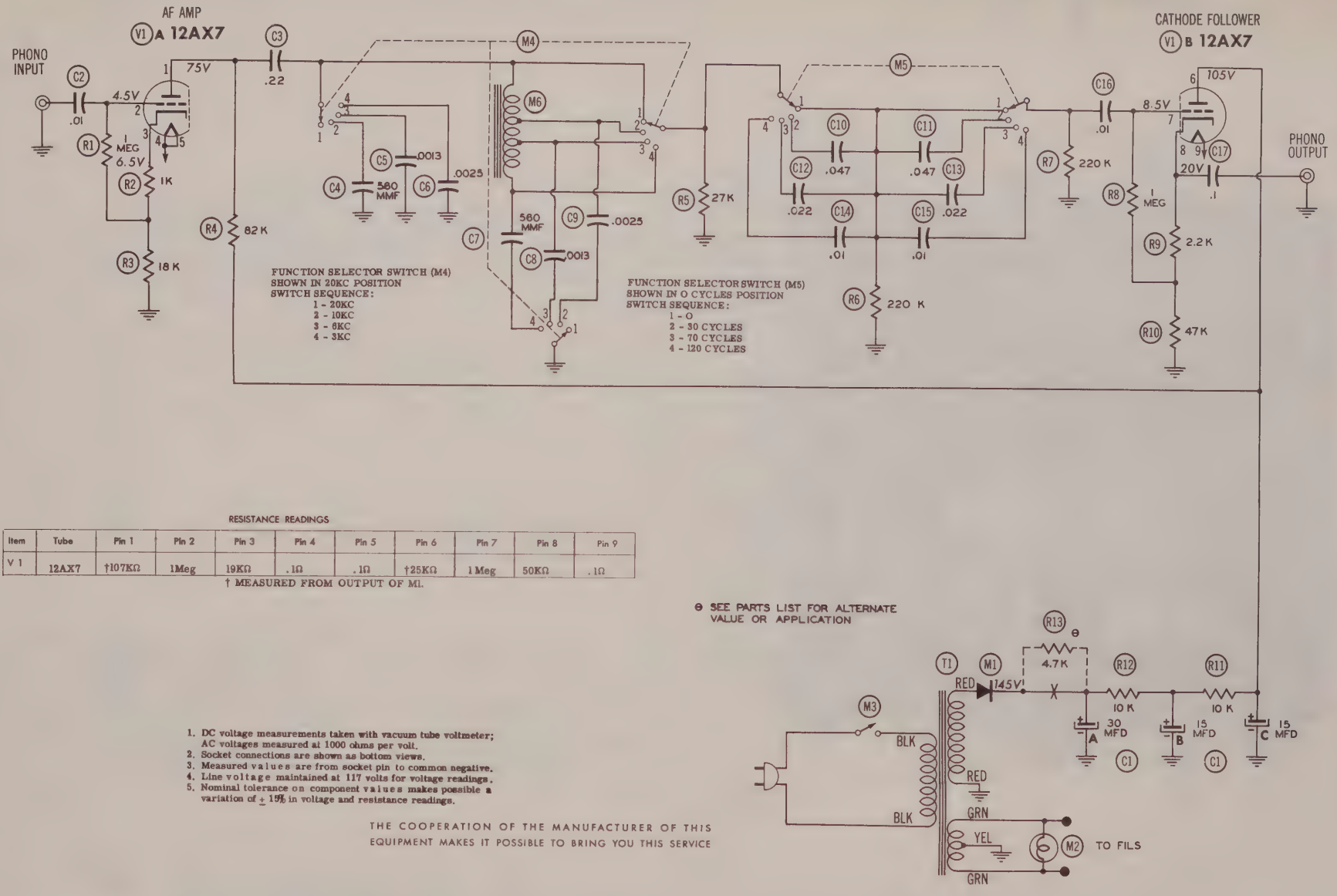
OLATHE, COLORADO

FISHER MODEL 50-F



RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	12AX7	†107KΩ	1Meg	19KΩ	.1Ω	.1Ω	†25KΩ	1 Meg	50KΩ	.1Ω

† MEASURED FROM OUTPUT OF M1.

θ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.

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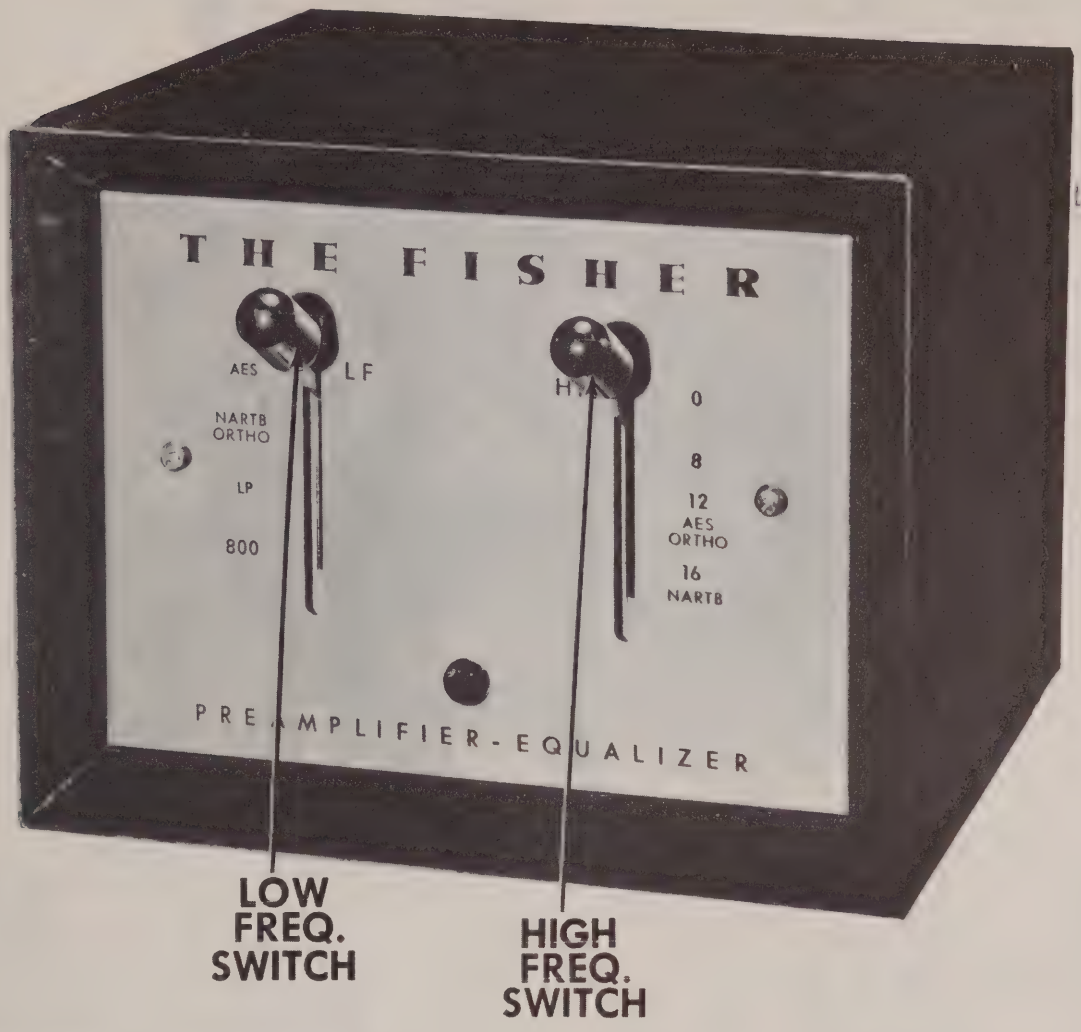
FISHER
MODEL 50-PR



FISHER
MODEL 50-PR

TRADE NAME	Fisher Model 50-PR
MANUFACTURER	Fisher Radio Corp., 21-21 44th. Drive, Long Island City 1, N.Y.
TYPE SET	AC Operated Pre-Amplifier & Equalizer With Self-Contained Power Supply
TUBES (One)	Type 6SC7 AF Amp.
POWER SUPPLY	105-125 Volts AC-50/60 Cycles RATING .05 Amp. @ 117 Volts AC

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PARTS LIST AND DESCRIPTIONS

FISHER MODEL 50-PR

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		FISHER PART No.	STANDARD REPLACEMENT		
V1	AF Amplifier	6SC7	6SC7	8S	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	FISHER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	■30	150	C-515-212	AFH3-16				FP311.4	TVL-3534	
B	▲15	150								
C	15	150								
C2	.047	200	C-68P473M2	P288-047	DF-503	PJ2S47		PT4147	2TM-S47	
C3	.0047	200	C-68P472F2	P688-0047	D6-472	CUB6D47	GP2-333-472	PT6247	6TM-D47	
C4	.0036	200	C-68P362K2							
C5	.0027	200	C-68P272K2							
C6	.0015	200	C-68P152K2							
C7	.1	200	C-68P104M2	P288-1	DF-104	PJ2P1		PT401	2TM-P1	
C8	.1	200	C-68P104M2	P288-1	DF-104	PJ2P1		PT401	2TM-P1	
C9	.002	200	C-68P202K2							
C10	.0036	200	C-68P362K2							
C11	.0068	200	C-68P682K2							

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	FISHER PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1	500Ω	1	R-516-128		39-500			Hum Adjustment -Note

Note .Not used in all Models.

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	FISHER PART No.	IRC PART No.	
R2	470KΩ	½	RC-20BF474K	BTS-470K	
R3	22Meg	½	RC-20BF226K	BTS-22Meg	
R4	68KΩ	½	RC-20BF683K	BTS-68K	
R5	120KΩ	½	RC-20BF124K	BTS-120K	
R6	1Meg	½	RC-20BF105K	BTS-1Meg	Note
R7	680KΩ	½	RC-20BF684K	BTS-680K	
R8	22Meg	½	RC-20BF226K	BTS-22Meg	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	FISHER PART No.	IRC PART No.	
R9	22Meg	½	RC-20BF226K	BTS-22Meg	
R10	100KΩ	½	RC-20BF104K	BTS-100K	
R11	10KΩ	½	RC-20BF103K	BTS-10K	
R12	2.2Meg	½	RC-20BF225K	BTS-2.2Meg	
R13	22KΩ	½	RC-20BF223K	BTS-22K	
R14	22KΩ	½	RC-20BF223K	BTS-22K	
R15	4700Ω	½	RC-20BF472K	BTS-4700	Note

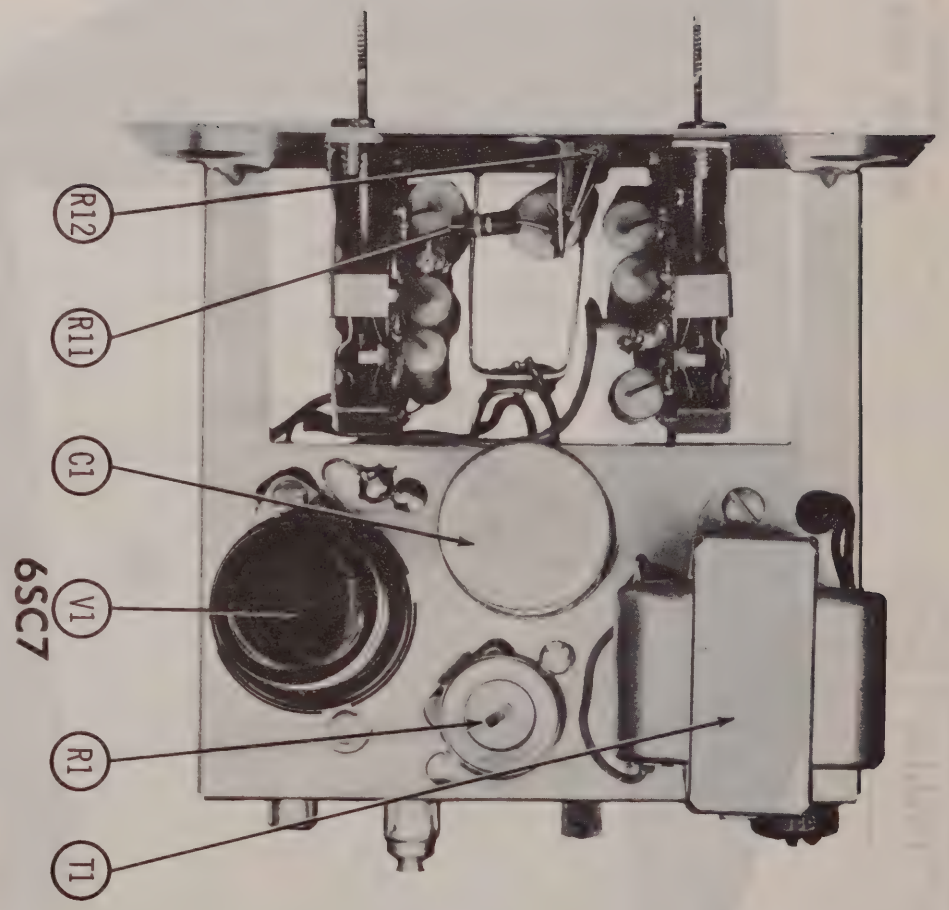
Note . Not used in all models.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	FISHER PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.
T1	117VAC @.05A	115VAC .0007ADC	6VAC @.49A		515-118 ①	PS-8415			P9100	

① 6.3V center tap not used.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

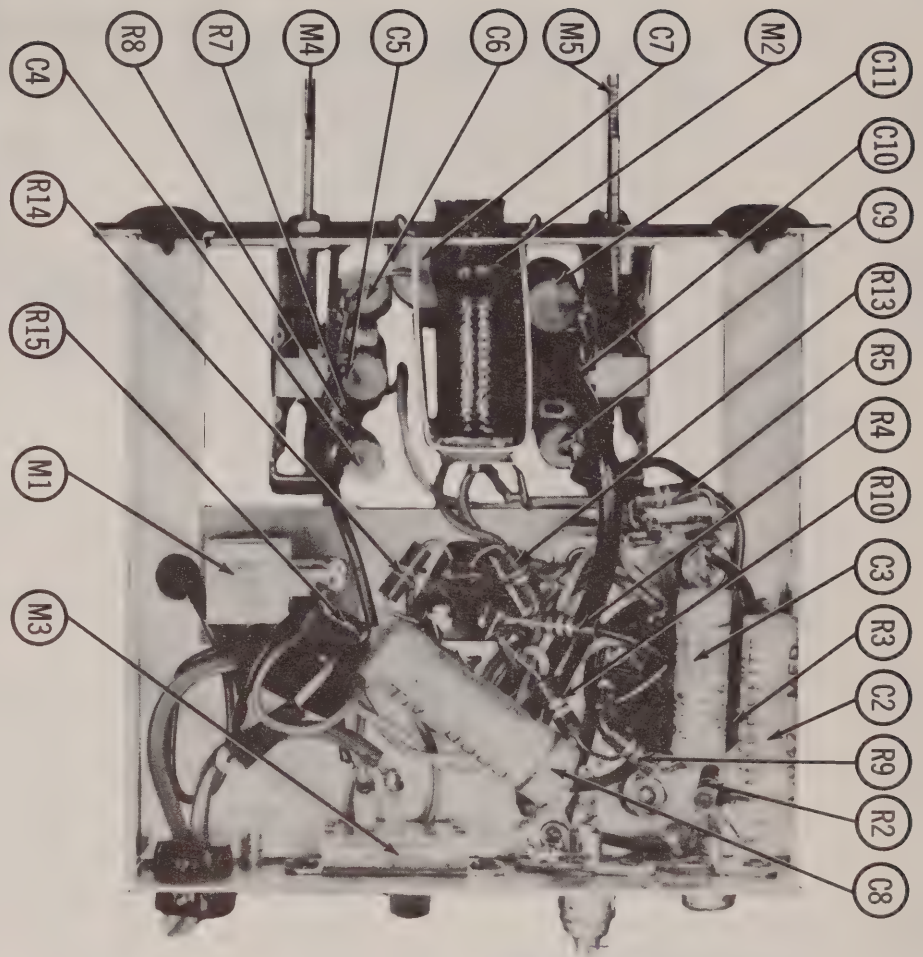
SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA						NOTES
	CURRENT	FISHER PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	SELETRON PART No.	
M1	.0007ADC	SR-50011-1	1159	CR-20	8S20	10	8Y1	

MISCELLANEOUS

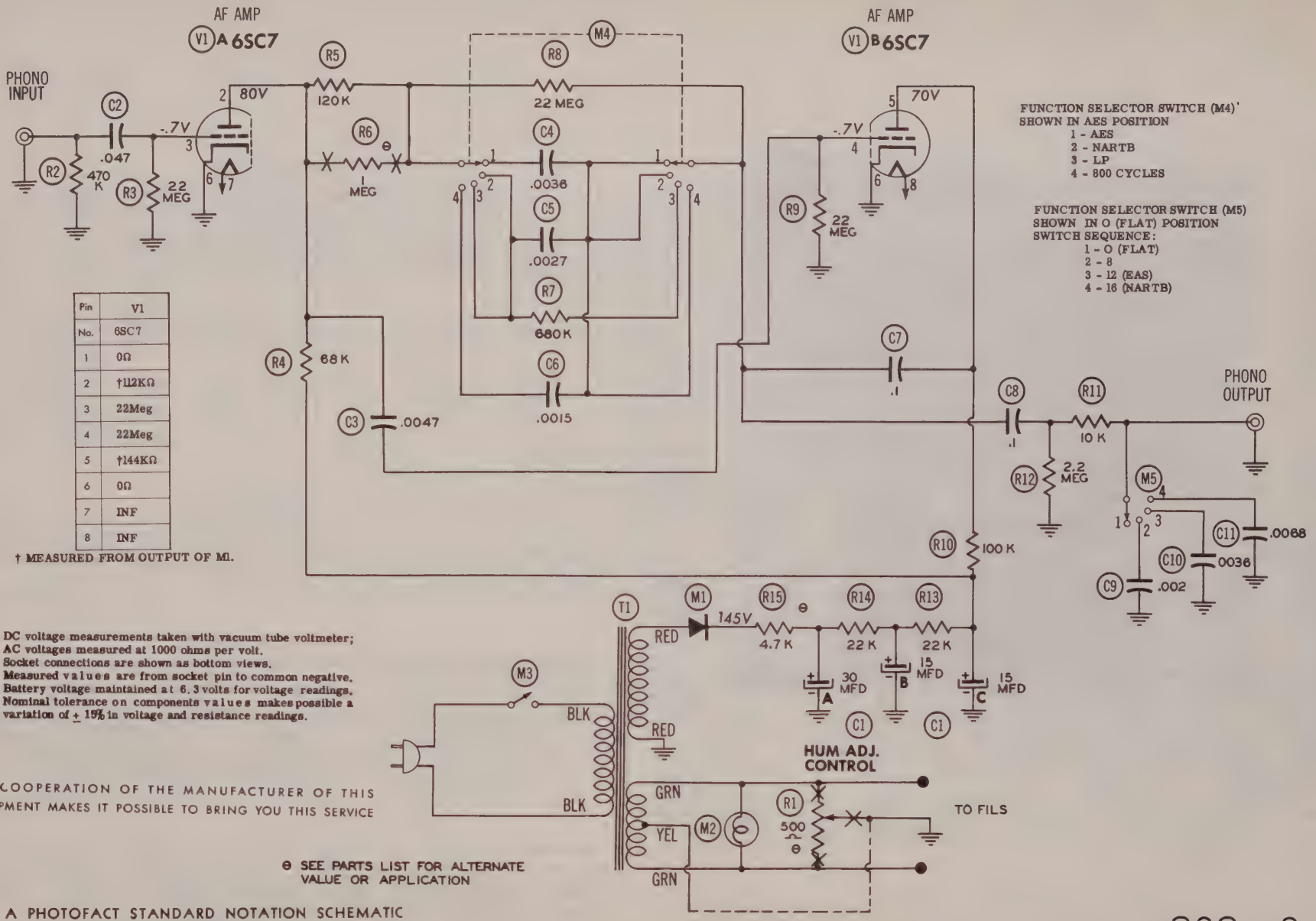
ITEM No.	PART NAME	FISHER PART No.	NOTES
M2	Dial Light	I-50009-2	#51, Bayonet
M3	Switch	S-515-119	On/off
M4	Switch	S-50005	Low Frequency
M5	Switch	S-50005	High Frequency

CHASSIS—BOTTOM VIEW



PROPERTY OF
FISHER

FISHER
MODEL 50-PR



FUNCTION SELECTOR SWITCH (M4)
SHOWN IN AES POSITION
1 - AES
2 - NARTB
3 - LP
4 - 800 CYCLES

FUNCTION SELECTOR SWITCH (M5)
SHOWN IN O (FLAT) POSITION
SWITCH SEQUENCE:
1 - O (FLAT)
2 - 8
3 - 12 (EAS)
4 - 16 (NARTB)

Pin No.	V1 6SC7
1	0Ω
2	†112KΩ
3	22Meg
4	22Meg
5	†144KΩ
6	0Ω
7	INF
8	INF

† MEASURED FROM OUTPUT OF M1.

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Battery voltage maintained at 6.3 volts for voltage readings.
5. Nominal tolerance on components values makes possible a variation of ± 15% in voltage and resistance readings.

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GENERAL ELECTRIC
MODELS 620, 621, 622

GENERAL ELECTRIC
MODELS 620, 621, 622

TRADE NAME	General Electric Models 620, 621, 622
MANUFACTURER	General Electric Co., Electronics Dept., Electronics Park, Syracuse, N.Y.
TYPE SET	Battery Operated Portable AM Superheterodyne Receiver
TUBES (FOUR)	Types 1R5 Conv., 1U4 IF Amp., 1U5 Det-AVC-AF Amp., 3V4 Output
POWER SUPPLY	1. 5Volts "A" Supply & 75 Volts "B" Supply
RATING	200 MA @ 1. 5 Volts DC & 7 MA @ 75 Volts DC
TUNING RANGE—BROADCAST	540KC - 1600KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Loop should be maintained in same relative position to chassis as when receiver in cabinet.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.1MFD	High side to pin 6 (grid) of 1R5(V1).Low side to chassis.	455KC (400∿ Mod.)	Tuning gang fully open.	Across voice coil.	A1, A2, A3, A4	Adjust for maximum output.
2	"	"	1620KC	"	"	A5	"
3		Loop	1500KC	Tune to 1500KC signal.	"	A6	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output while rocking tuning gang thru 1500KC signal.
4		"	600KC	Tune to 600KC signal.	"	A7	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output while rocking tuning gang thru 600KC signal.

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PARTS LIST AND DESCRIPTIONS

GENERAL ELECTRIC MODEL 620

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		G. E. PART No.	STANDARD REPLACEMENT		
V1	Converter	1R5	1R5	7AT	
V2	IF Amp.	1U4	1U4	6AR	
V3	Det-AVC-AF Amp.	1U5	1U5	6BW	
V4	Output	3V4	3V4	6BX	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	G. E. PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1	10	100	RCE-172	PRS150/12		BR1215		TC42	TVA-1406	
C2	.047	200	RCE-122	P288-047	DF-503	PJ2S47		PT415	2TM-S5	
C3	47		RCW-3075							
C4	.01	200	RCC-121	P288-01	D6-103	PJ2S1	GP2-333-103	PT411	2TM-S1	
C5	3000		RCW-3118	BPD-003	DD-302	K076	801-003	DC-525	5HK-D3	
C6	2.2		RCW-3078	SI2.2NP0						
C7A	82				D6-820	TZ-28	GP1K-820		5GA-Q22	
B	2000		RCN-082	PA-294	DD-202	K072	801-002		5HK-D2	
C	220				D6-221	TP39	GP2K-221		5GA-T22	
D	5000				DD-502	K080	801-005	5HK-D5		
C8	.022	200	RCC-123	P288-02	DF-203	PJ2S3		PT412	2TM-S2	
C9	2000		RCW-3119	BPD-002	DD-202		801-002	DC-522	5HK-D2	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	G. E. PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1A	1Meg	½	RRC-239	Q13-137	A47-1Meg-Z	B-70-S	U-53	Volume
B	Shaft		Not Req.	Not Req.	FS-3	Not Req.	Not Req.	Attach to R1A
C	Switch		Not Req.	76-2	SWE-20	Not Req.	US-27	Attach to R1A

RESISTORS

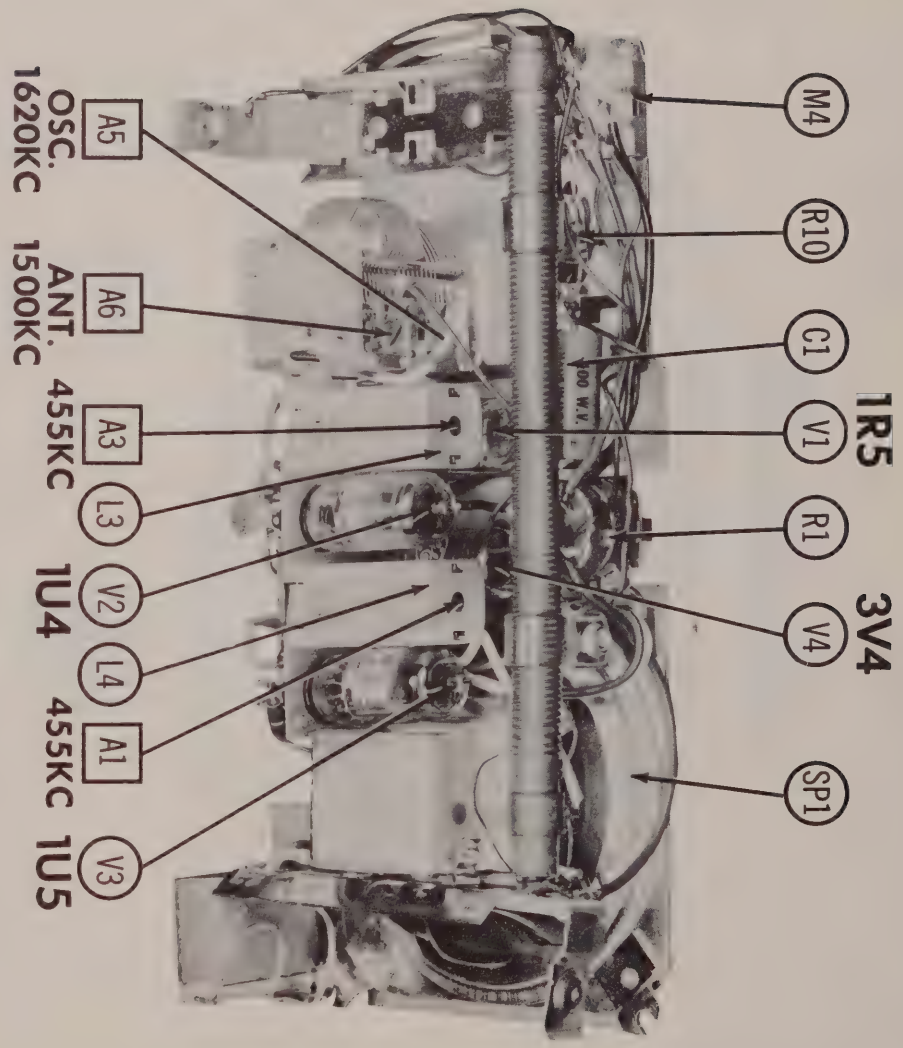
ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	G. E. PART No.	IRC PART No.	
R2	100KΩ	½	URD-097	BTS-100K	
R3	15KΩ	½	URD-077	BTS-15K	
R4	3.3Meg	½	URD-061	BTS-3.3Meg	
R5	3.3Meg	½	URD-061	BTS-3.3Meg	
R6	10Meg	½	URD-145	BTS-10Meg	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	G. E. PART No.	IRC PART No.	
R7	4.7Meg	½	URD-137	BTS-4.7Meg	
R8	1Meg	½	URD-121	BTS-1Meg	
R9	3.3Meg	½	URD-061	BTS-3.3Meg	
R10	470Ω	½	URD-041	BTS-470	
R11	120Ω	½	URD-027	BTS-120	

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	G. E. PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	
T1	9.8KΩ	3.5Ω	RT0-153	A-3329 ①	A-2927	S-11Z		24S49 1	① Drill one new mounting hole.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	G. E. PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4"	PM	3.5Ω	R0P-28	ST-113 Mod. P4-X	4A07	

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	G. E. PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Ant. Coil	.3Ω		RLL-058				
L2	Osc. Coil	1.2Ω	6.5Ω	RLC-129	14-1074*		71-Osc. ■	
L3	Input IF	31Ω	31Ω	RTL-152	16-6758	BC-352	12-C1	
L4	Output IF	31Ω	31Ω	RTL-152	16-6758	BC-353	12-C2	

* Leads sufficient mounting support.
■ Enlarge mounting hole.

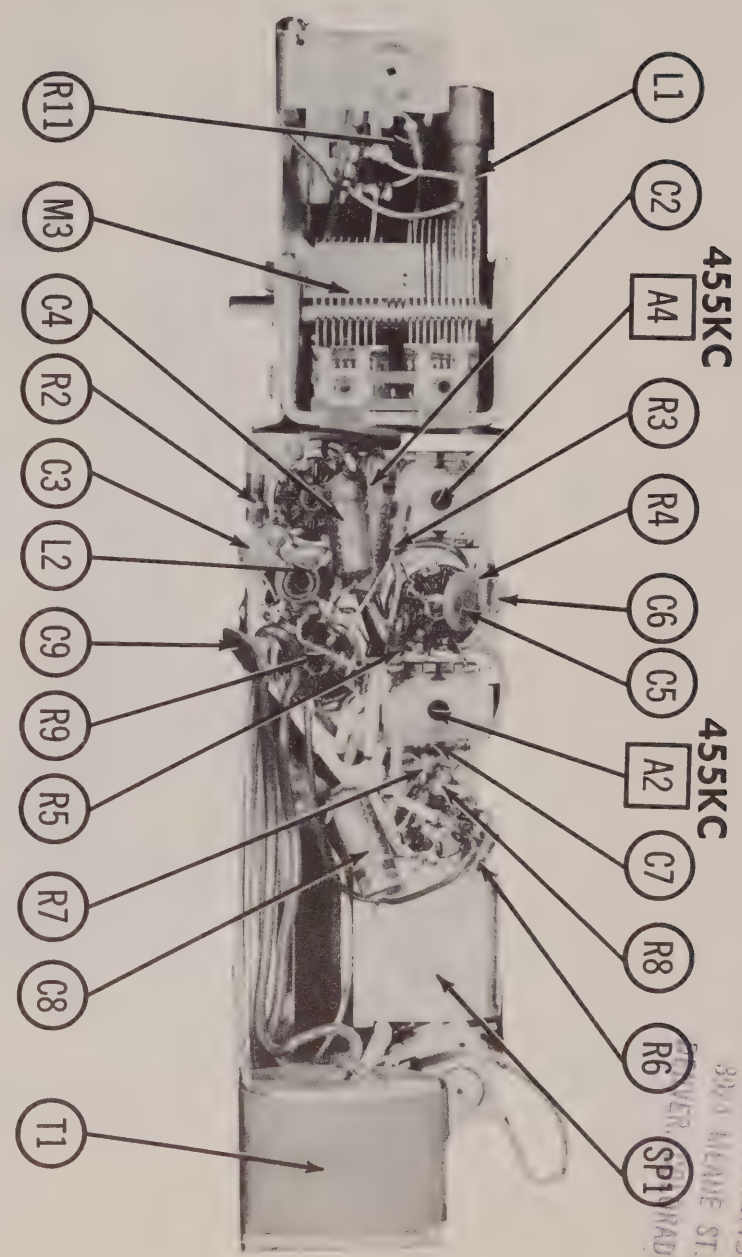
BATTERIES

ITEM No.	VOLTAGE	G. E. PART No.	REPLACEMENT DATA						INSTALLATION NOTES
			EVEREADY			BURGESS			
			"A"	"B"	"A-B"	"A"	"B"	"A-B"	
M1 M2	1.5V 75V		964	437		21R	XX50		Connect 2 in parallel.

MISCELLANEOUS

ITEM No.	PART NAME	G. E. PART No.	NOTES
M3	Tuning capacitor	RCT-075	14-295MMF; 14-120MMF.
M4	Switch	RDK-394	Battery Saver - Model 620
	Switch	RDK-395	Battery Saver - Model 621
	Switch	RDK-396	Battery Saver - Model 622
	Cabinet	RAU-404	Dark Green - Model 620
	Cabinet	RAU-405	Red - Model 621
	Cabinet	RAU-406	Gray - Model 622
	Knob	RDK-390	Tuning - All models
	Knob	RDK-391	Volume-On-Off - Model 620
	Knob	RDK-392	Volume-On-Off - Model 621
	Knob	RDK-393	Volume-On-Off - Model 622
	Handle Ass'y.	RHY-056	
	Name Plate	RYN-022	Model 620
	Name Plate	RYN-023	Model 621
	Name Plate	RYM-024	Model 622

CHASSIS—BOTTOM VIEW



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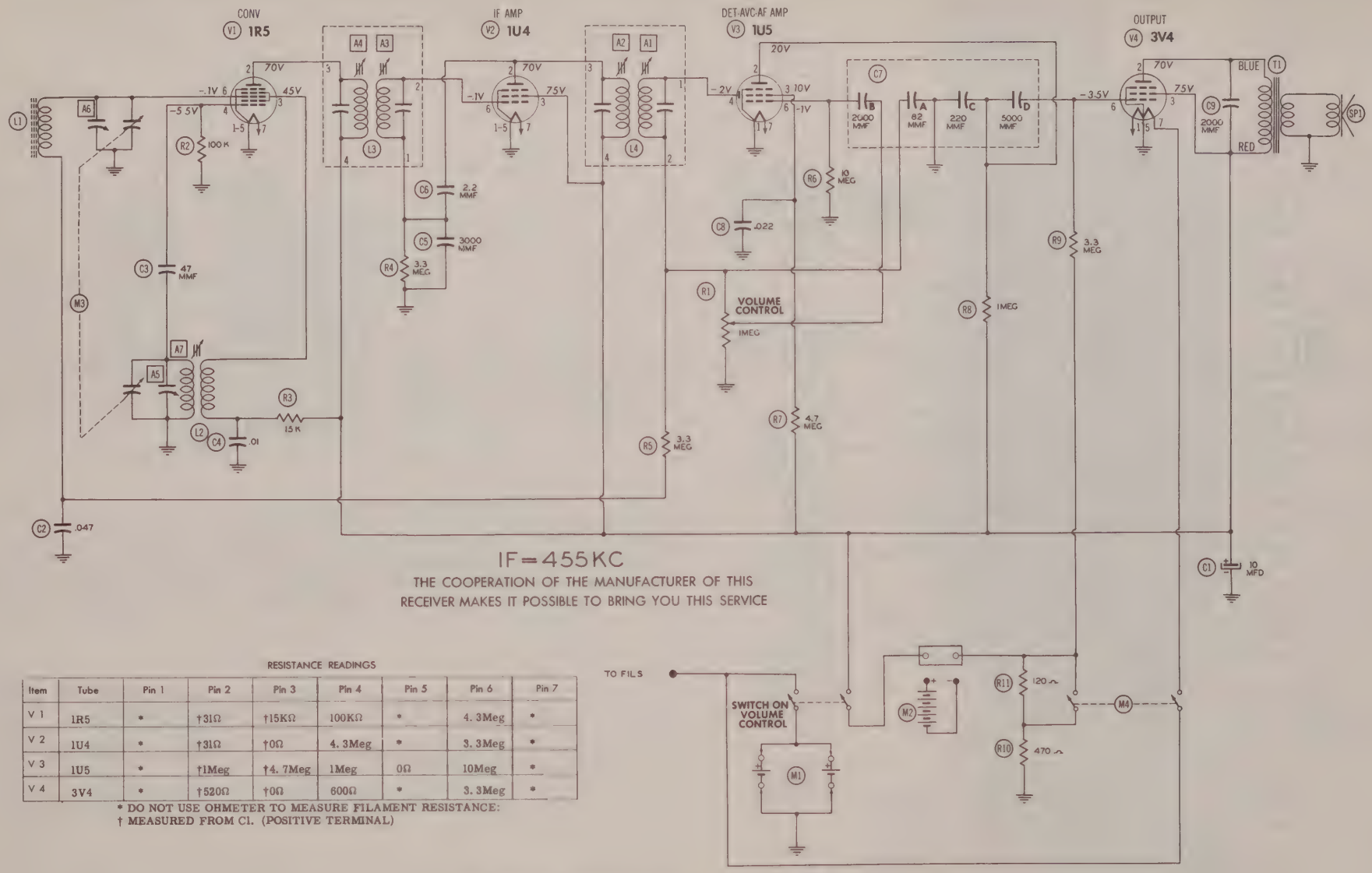
GENERAL ELECTRIC
MODEL 620



IF=455KC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V 1	1R5	*	†31Ω	†15KΩ	100KΩ	*	4. 3Meg	*
V 2	1U4	*	†31Ω	†0Ω	4. 3Meg	*	3. 3Meg	*
V 3	1U5	*	†1Meg	†4. 7Meg	1Meg	0Ω	10Meg	*
V 4	3V4	*	†520Ω	†0Ω	600Ω	*	3. 3Meg	*

* DO NOT USE OHMETER TO MEASURE FILAMENT RESISTANCE.
† MEASURED FROM C1. (POSITIVE TERMINAL)

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
5. Volume control at maximum, no signal applied for voltage measurements.

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DENVER, COLORADO

GROMMES
MODEL 206PA

GROMMES
MODEL 206PA

TRADE NAME	Grommes Model 206PA
MANUFACTURER	Precision Electronics, 9101 King Ave., Franklin Park, Ill.
TYPE SET	Four Channel Audio Equalizer Pre Amplifier
TUBES (Three)	Types 12AX7 Pre Amp., (2) 12AU7 AF Amp.-Cathode Follower
POWER SUPPLY REQUIREMENTS	275-300 Volts DC @ 8MA & 6.3 Volts @ 1 Amp.

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		GROMMES PART No.	STANDARD REPLACEMENT		
V1	Pre-Amp.	12AX7	12AX7	9A	
V2	AF Amp-Cathode Follower	12AU7	12AU7	9A	
V3	AF Amp-Cathode Follower	12AU7	12AU7	9A	

CAPACITORS

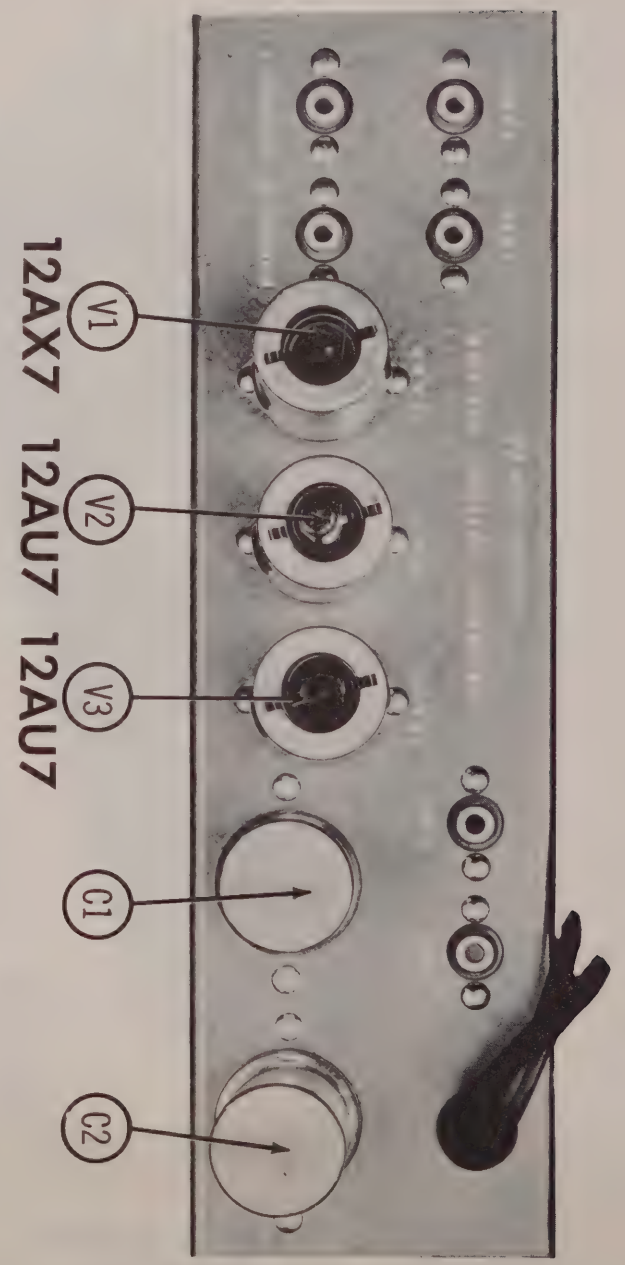
Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	GROMMES PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	■10	350		AFH3-27		C021		FP330. 5	TVL-3690	
B	▲10	350								
C	10	350								
C2A	■10	350		AFH3-27		C021		FP330. 5	TVL-3690	
B	▲10	350								
C	10	350								
C3	20	25		PRS25/20		BR202		TC26	TVA-1205	
C4	1000	500		1468-001		1W5D1		MCB255	MS-21	
C5	2000	500		1467-002		1W5D2		MCB457	MS-22	
C6	. 03	600		P688-03		CUB6S3		PT613	6TM-S3	
C7	1000	500		1468-001		1W5D1		MCB255	MS-21	
C8	. 05	400		P488-05	DF-503	CUB4S5		PT415	4TM-S5	
C9	. 003	600		P688-003	D6-302	CUB6D3	GP2-333-302	PT623	6TM-D3	
C10	. 05	400		P488-05	DF-503	CUB4S5		PT415	4TM-S5	
C11	. 03	400		P488-03		CUB4S3		PT413	4TM-S3	
C12	. 05	400		P488-05	DF-503	CUb4S5		PT415	4TM-S5	
C13	250	500		1468-00025		5W5T25		MCB240	1FM-325	
C14	. 003	600		P688-003	C6-302	CUB6D3		PT623	6TM-D3	
C15	1000	500		1468-001		1W5D1		MCB255	MS-21	
C16	. 01	400		P488-01	DF-103	CUB4S1	GP2-333-103	PT411	4TM-S1	
C17	. 1	600		P688-1	DF-104	CUB6P1		PT601	6TM-P1	
C18	. 01	400		P488-01	DF-103	CUB4S1	GP2-333-103	PT411	4TM-S1	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	GROMMES PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1A	1. 5Meg	½	W3181	Q13-139	A47-2Meg-2	B-76	U-55	Treble
B	Shaft		Not Req.	Not Req.	RS-2	Not Req.	Not Req.	Attach to R1A
R2A	1. 5Meg	½	W3181	Q13-139	A47-2Meg-2	B-76	U-55	Bass
B	Shaft		Not Req.	Not Req.	RS-2	Not Req.	Not Req.	Attach to R2A
R3A	500KΩ	½	W-3182	Q13-133X	AT-88	BT-63-S	UT-429	Volume tapped at 50KΩ
B	Shaft		Not Req.	Not Req.	RS-2	Not Req.	Not Req.	Attach to R3A
C	Switch		Not Req.	76-1	SWE-12	Not Req.	US-26	Attach to R3A

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

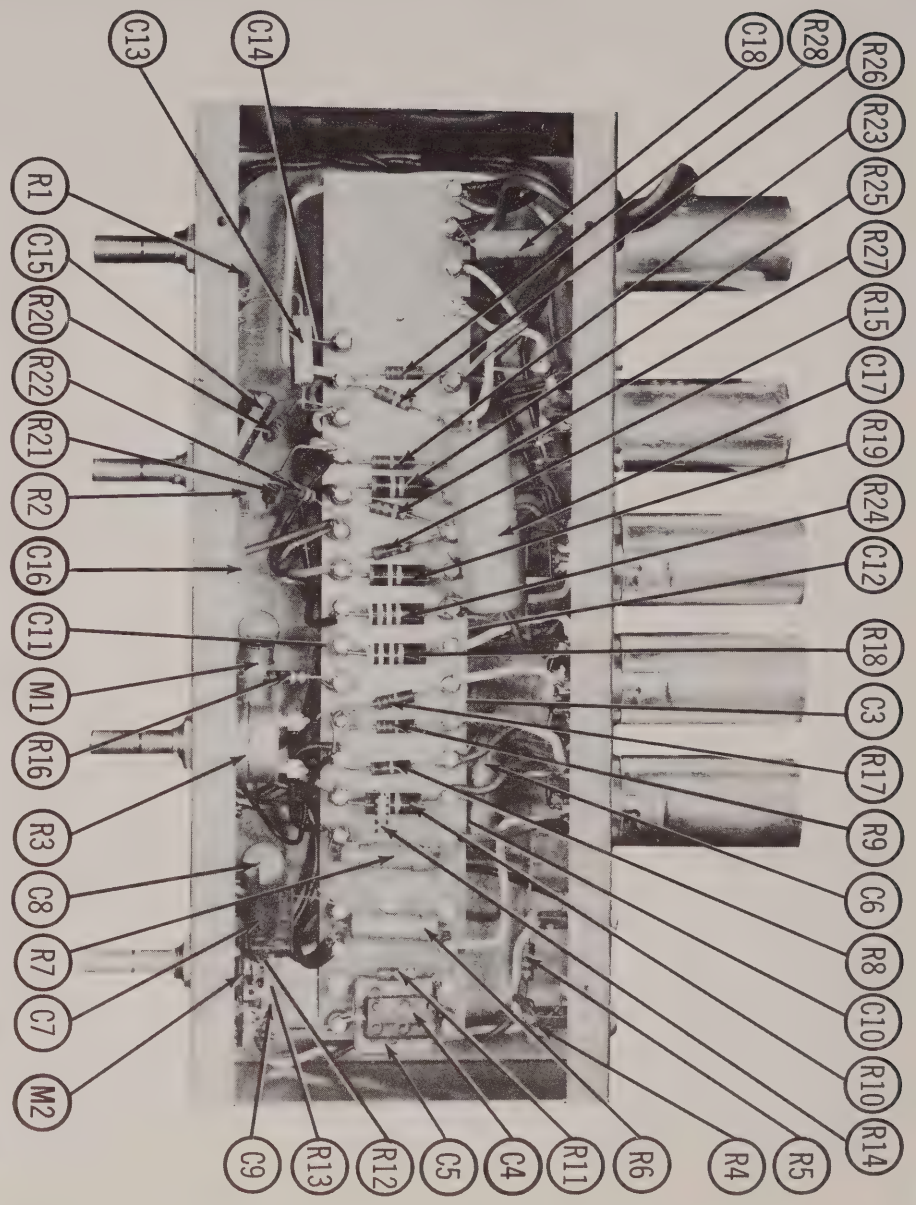
ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	GROMMES PART No.	IRC PART No.	
R4	22KΩ	½		BTS-22K	
R5	22KΩ	½		BTS-22K	
R6	2200Ω 5%	1			
R7	100KΩ 5%	1			
R8	1Meg	½		BTS-1Meg	
R9	2200Ω	½		BTS-2200	
R10	100KΩ	1		BTA-100K	
R11	100KΩ	½		BTS-100K	
R12	1Meg	½		BTS-1Meg	
R13	1Meg	½		BTS-1Meg	
R14	47KΩ	½		BTS-47K	
R15	22KΩ	½		BTS-22K	
R16	22KΩ	½		BTS-22K	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	GROMMES PART No.	IRC PART No.	
R17	2200Ω	½		BTS-2200	
R18	47KΩ	1		BTA-47K	
R19	100KΩ	1		BTA-100K	
R20	220KΩ	½		BTS-220K	
R21	22KΩ	½		BTS-22K	
R22	22KΩ	½		BTS-22K	
R23	2200Ω	½		BTS-2200	
R24	47KΩ	1		BTA-47K	
R25	100KΩ	1		BTA-100K	
R26	22KΩ	½		BTS-22K	
R27	22KΩ	½		BTS-22K	
R28	2200Ω	½		BTS-2200	

MISCELLANEOUS

ITEM No.	PART NAME	GROMMES PART No.	NOTES
M1	Dial Light		#51 Bayonet
M2	Switch		Selector

CHASSIS—BOTTOM VIEW



GROMMES MODEL 206PA

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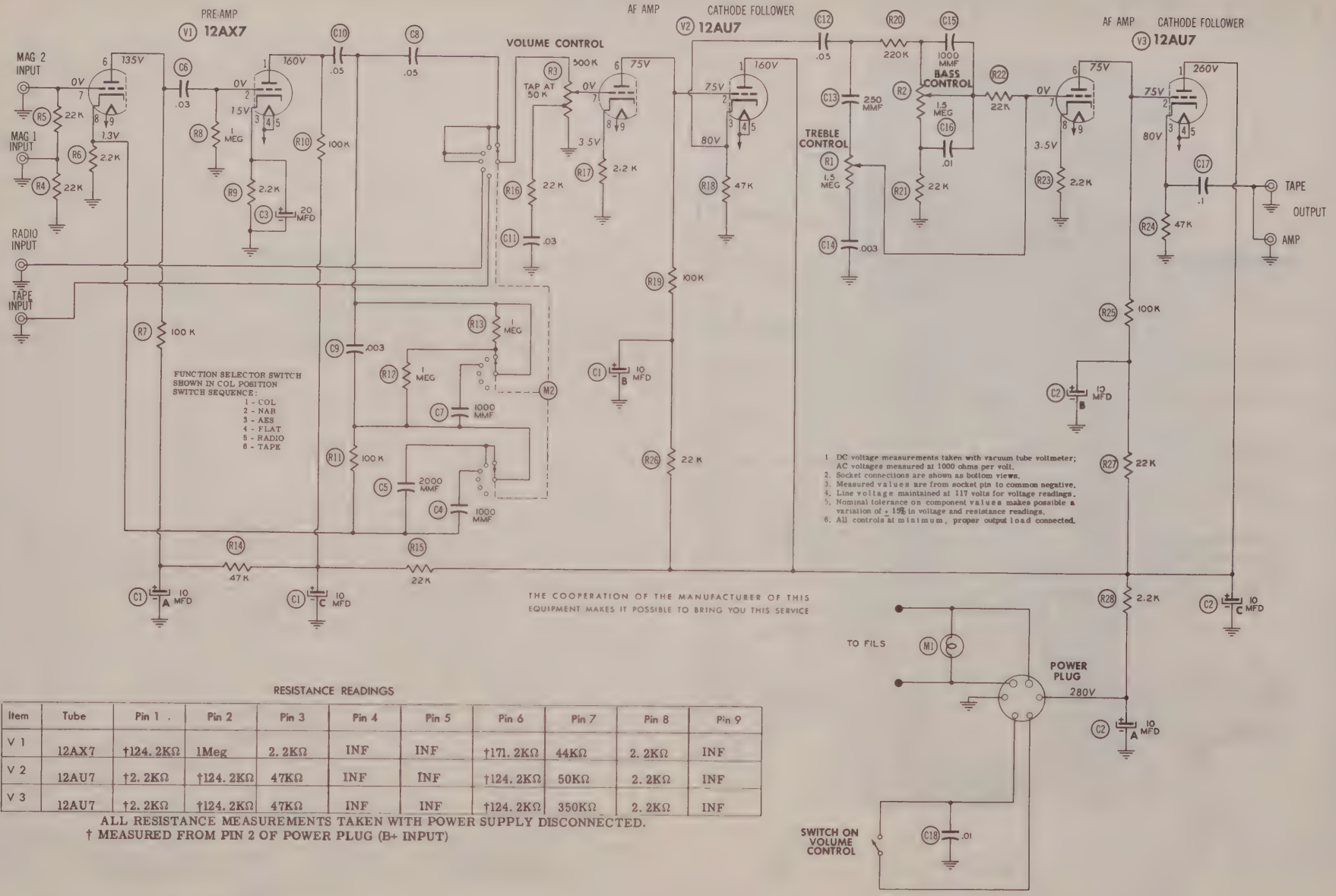
GROMMES MODEL 206PA


PRE-AMP
V1 12AX7
AF AMP
CATHODE FOLLOWER
V2 12AU7
AF AMP
CATHODE FOLLOWER
V3 12AU7
VOLUME CONTROL
TREBLE CONTROL
BASS CONTROL
MAG 2 INPUT
MAG 1 INPUT
RADIO INPUT
TAPE INPUT
TAPE OUTPUT AMP
FUNCTION SELECTOR SWITCH SHOWN IN COL POSITION
SWITCH SEQUENCE:
1 - COL
2 - NAB
3 - AES
4 - FLAT
5 - RADIO
6 - TAPE
1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6. All controls at minimum, proper output load connected.
THE COOPERATION OF THE MANUFACTURER OF THIS EQUIPMENT MAKES IT POSSIBLE TO BRING YOU THIS SERVICE
TO FILS
POWER PLUG
280V
SWITCH ON VOLUME CONTROL

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	12AX7	†124. 2KΩ	1Meg	2. 2KΩ	INF	INF	†171. 2KΩ	44KΩ	2. 2KΩ	INF
V 2	12AU7	†2. 2KΩ	†124. 2KΩ	47KΩ	INF	INF	†124. 2KΩ	50KΩ	2. 2KΩ	INF
V 3	12AU7	†2. 2KΩ	†124. 2KΩ	47KΩ	INF	INF	†124. 2KΩ	350KΩ	2. 2KΩ	INF

ALL RESISTANCE MEASUREMENTS TAKEN WITH POWER SUPPLY DISCONNECTED.
† MEASURED FROM PIN 2 OF POWER PLUG (B+ INPUT)

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RETMA MEMBER

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SENTINEL MODEL 1U-701

TRADE NAME	Sentinel Models 1U-701, 1U-711, 1U-714, 1U-721, 1U-724, 1U-752, 1U-755, 1U-758, 1U-762, 1U-765, 1U-768 1U-791
MANUFACTURER	Sentinel Radio Corp., 2100 W. Dempster, Evanston, Illinois
TYPE SET	Television Receiver
TUBES	Eighteen
POWER SUPPLY	110-120 Volts AC-60 Cycle RATING 1.52 Amp. @ 117 Volts AC
TUNING RANGE—	Channels 2 thru 13 VHF, 14 thru 83 UHF, Video IF 45.75MC, Sound IF 41.25MC (Intercarrier)

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SENTINEL MODELS 1U-701, 1U-711, 1U-714, 1U-721, 1U-724, 1U-752, 1U-755, 1U-758, 1U-762, 1U-765, 1U-768, 1U-791

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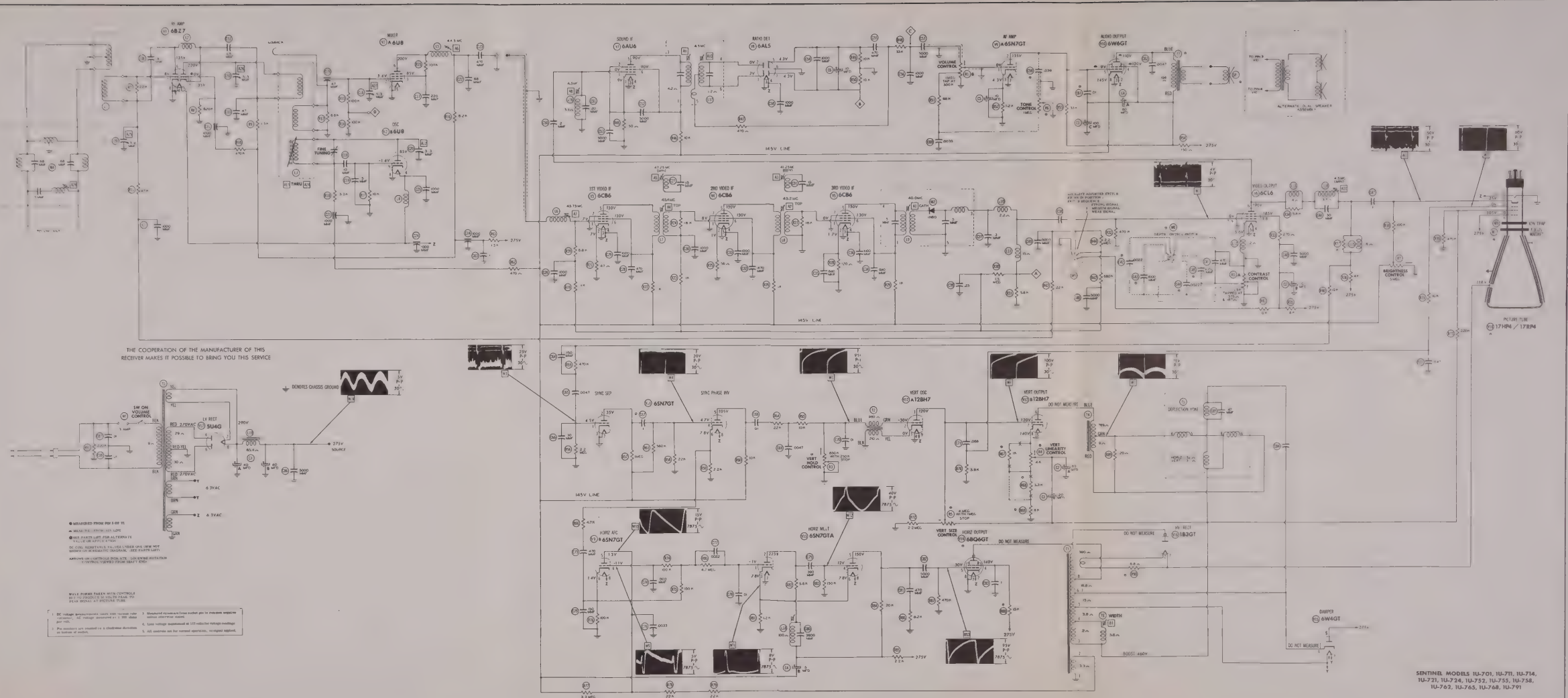
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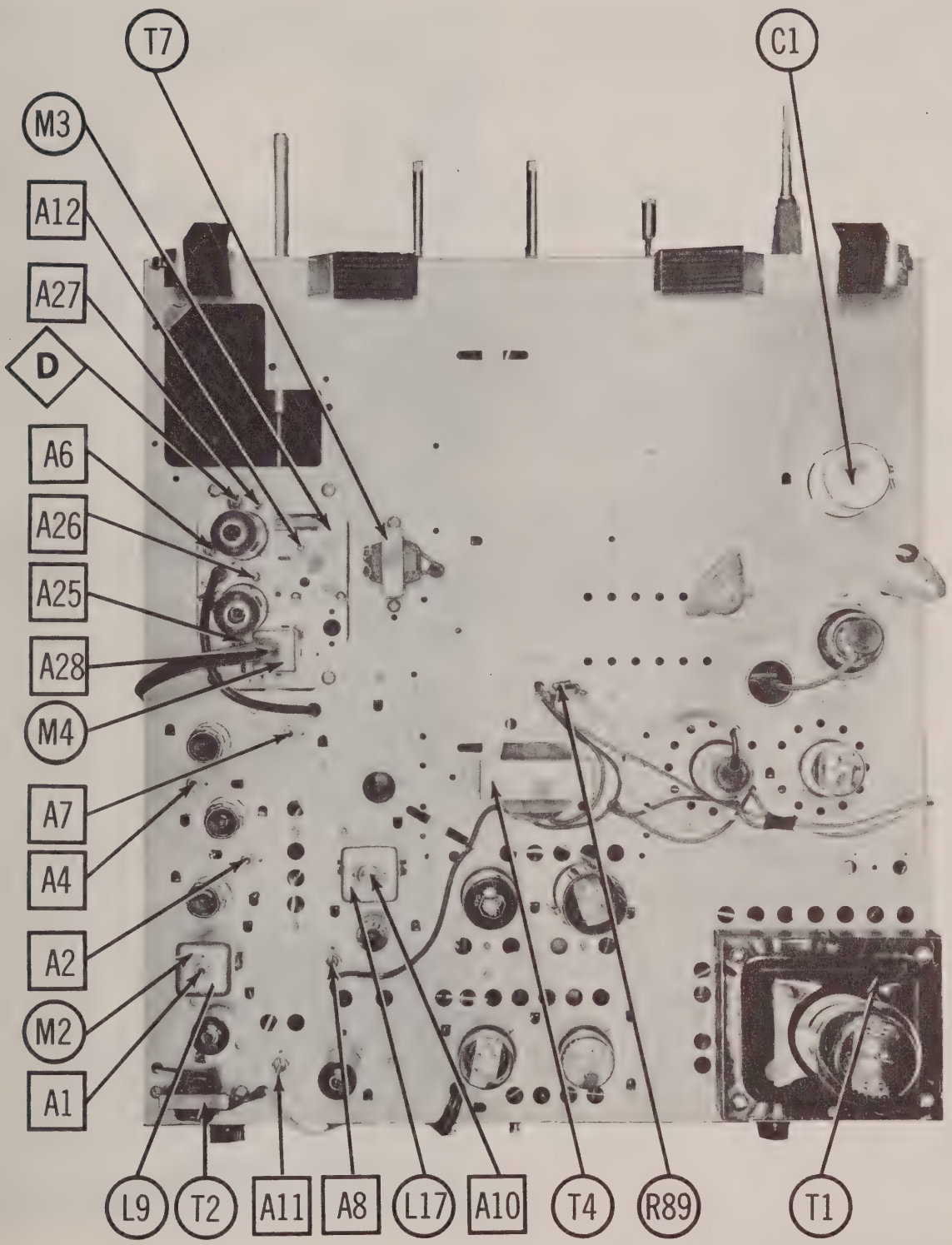

CHASSIS TOP VIEW

SET 262 FOLDER 11

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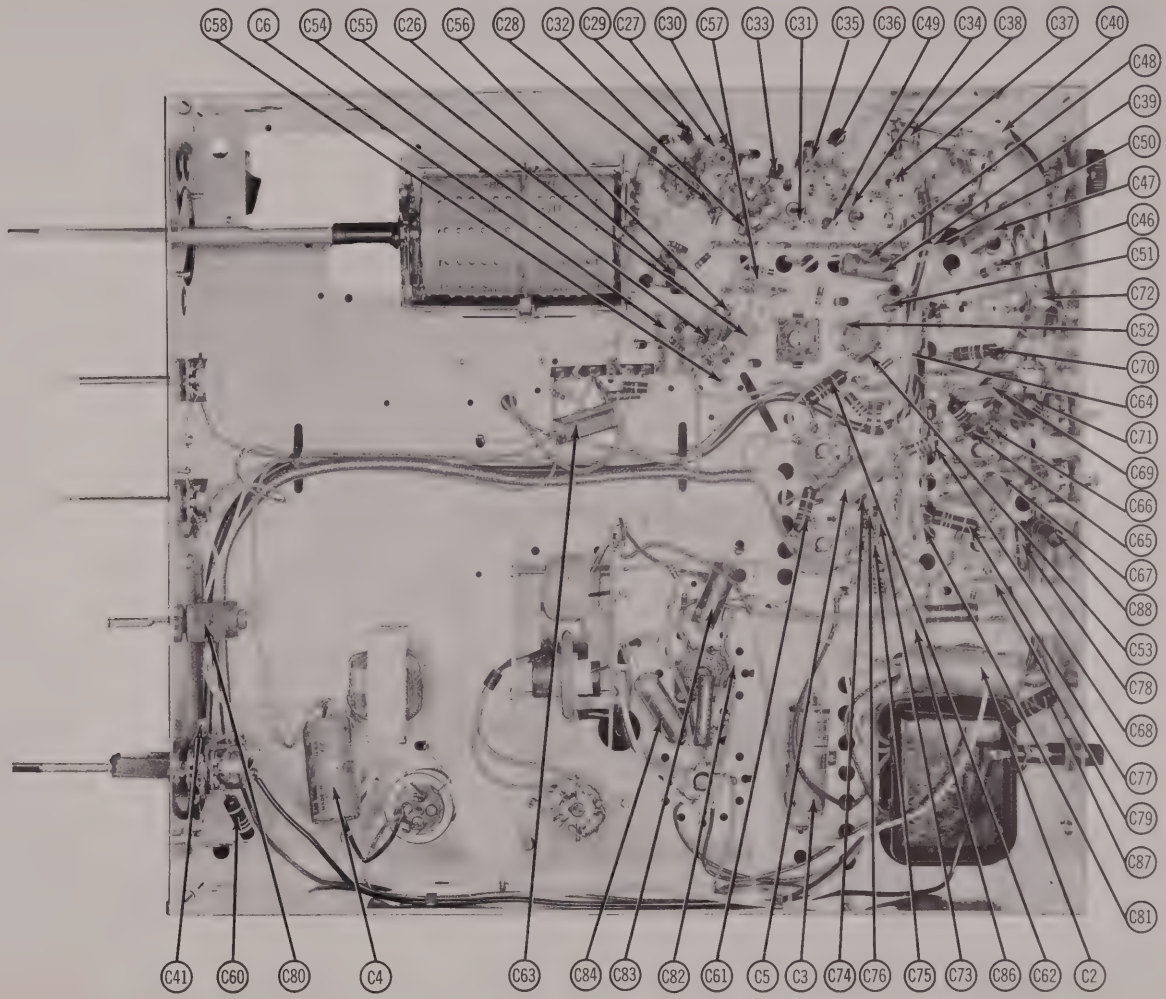

CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION

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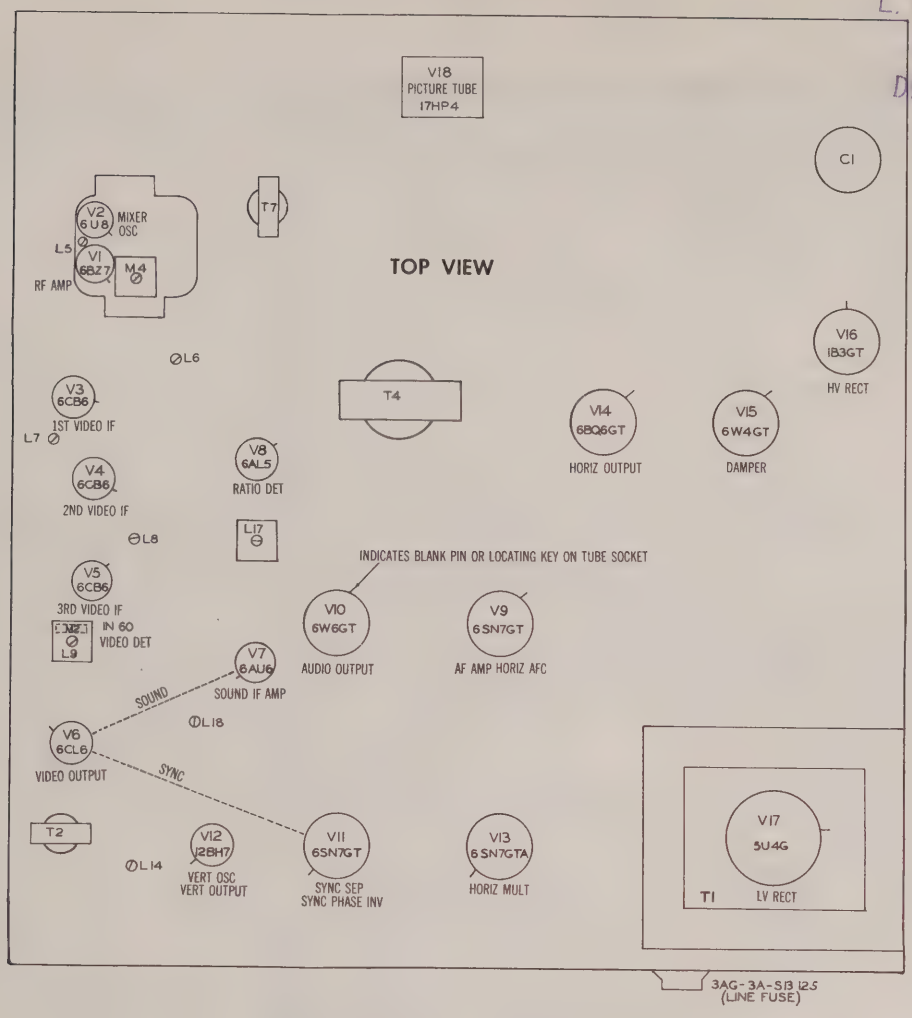
TUBE PLACEMENT CHART



TUBE FAILURE CHECK CHART

The following chart lists tubes whose failures are most likely to produce the indicated symptoms. Refer to tube placement chart for location and type of tube.

POWER SUPPLY FAILURE
No raster, no sound - V17, Fuse (M1)

LOSS OF PICTURE OR SOUND
No pic, no sound, has raster - V2, V3, V4, V5, V6, V10
No pic, no sound, has snow - V1, V2, V3
No pic, has sound, has raster - V6, V18
Has pic, no sound - V7, V8, V9, V10

SYNC FAILURE
No vert. sync - V11, V12
No horiz. sync - V9, V11, V13
No vert. or horiz. sync - V11

SWEEP FAILURE
No raster, has sound - V13, V14, V15, V16, V18
No vertical deflection - V12
Poor vert. linearity or foldover - V12
Poor horiz. linearity or foldover - V13, V14, V15
Narrow picture - V13, V14, V15, V16, V17
Vert. off freq. - V11, V12
Horiz. off freq. - V9, V11, V13

SENTINEL MODELS 1U-701, 1U-711, 1U-714, 1U-721, 1U-724, 1U-752, 1U-755, 1U-758, 1U-762, 1U-765, 1U-768, 1U-791

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DENVER, COLO.

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

The high voltage lead should be securely taped and kept away from the chassis. Do not remove the horizontal multivibrator tube (V13) to disable the high voltage.
Allow a 15 minute warm-up period for receiver and test equipment.

VIDEO IF ALIGNMENT

Connect the negative lead of a 3 volt bias battery to the ungrounded side of C39. Connect the positive lead to chassis.
Use only enough generator output to provide usable indication on VTVM.
Set "Locality Switch" (rear panel) to "Strong" position.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
1.	Direct	High side to an ungrounded tube shield floating over converter tube (V2). Low side to chassis.	44.0MC (Unmod)	3	DC probe thru 47KΩ to point ◇. Common to chassis.	A1	Adjust for maximum deflection.
2.	"	"	43.2MC	"	"	A2	"
3.	"	"	41.25MC	"	"	A3	Adjust for MINIMUM deflection. Repeat steps 1 and 2.
4.	"	"	45.4MC	"	"	A4	Adjust for maximum deflection.
5.	"	"	47.25MC	"	"	A5	Adjust for MINIMUM deflection. Repeat steps 4 and 5.
6.	"	"	44.5MC	"	"	A6	Detune A7 by adjusting fully counter clockwise.
7.	"	"	45.75MC	"	"	A7	Adjust for maximum deflection.

OVERALL VIDEO IF RESPONSE CHECK

Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
Use only enough sweep generator output to provide usable pattern on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
8	Direct	High side to an ungrounded tube shield floating over converter tube (V2). Low side to chassis.	44MC (10MC Swp)	41.25MC 42.25MC 45.75MC 47.25MC	3	Vert. amp. thru 47KΩ to point ◇. Low side to chassis.		Check for response curve similar to Fig. 1. If necessary, slightly retouch A1, A2, A4, A6 and A7 to obtain desired response. To view 41.25MC and 47.25MC markers, temporarily remove bias battery and increase scope gain and marker generator output. Markers should fall in trap notch as in Fig. 1.

SOUND IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Set contrast control fully clockwise.
Attenuate generator output for approximately 5 volts at VTVM.
Remove the third video IF amplifier (V5) from its socket.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
9.	.001MFD	High side to junction of L10 and L11. Low side to chassis.	4.5MC (Unmod)	Any	DC probe thru 47KΩ to point ⊕. Common to chassis.	A8, A9	Adjust for maximum deflection.
10.	"	"	"	"	DC probe thru 47KΩ to point ◇. Common to chassis.	A10	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting. Replace V5 in its socket for final adjustment of A10 is best made with a TV station tuned in. Adjust A10 for MINIMUM buzz in the sound.

SOUND IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 80% modulation and 450KC sweep. Use 120% sawtooth voltage in scope for horizontal deflection.
Set contrast control fully clockwise.
Remove V5 from its socket.
Use only enough sweep generator output to provide usable indication on scope.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
9	.001MFD	High side to junction of L10 and L11. Low side to chassis.	4.5MC (450KC Swp)	4.5MC	Any	Vert. amp. thru 47KΩ to point ◇. Low side to chassis.	A8, A9	Disconnect stabilizer capacitor C6. Adjust for curve of maximum amplitude and symmetry similar to Fig. 2.
10	"	"	"	"	"	Vert. Amp. thru 47KΩ to point ◇. Low side to chassis.	A10	Reconnect stabilizing capacitor C6. Adjust so that 4.5MC occurs at center of crossover lines as in Fig. 3. Slightly retouch A9 for maximum amplitude and straightness of crossover lines. Replace V5 in its socket.

4.5MC TRAP ALIGNMENT

Remove V5 from its socket.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	CHANNEL	CONNECT VTVM	ADJUST	REMARKS
11.	.001MFD	High side to pin 11 (cathode) of picture tube. Low side to chassis.	4.5MC (Unmod)	Any	DC probe thru 47KΩ to point ◇. Common to chassis.	A11	Adjust for MINIMUM deflection. Replace V5 in its socket.

ALTERNATE 4.5MC ALIGNMENT

Restore the set to normal operating condition and tune in strongest TV station available. Adjust A11 for minimum 4.5MC beat interference in picture.

OSCILLATOR ALIGNMENT

Leave bias connected as under "Video IF Alignment".
Restore tube shield on converter tube (V2) to its normal position.
Complete oscillator alignment may not be necessary. If the oscillator seems to be off frequency approximately the same amount for a majority of the channels it may be possible to correct them in one step using A12. It should be noted that this is an all channel oscillator circuit adjustment and should not be used to correct any individual channel.
If adjustment of A12 will not bring all channels well within the range of the fine tuning control it will be necessary to adjust the channel strip adjustment for each channel that is off frequency.
The channel oscillator adjustment screws are reached through a hole above and just to the left of the channel switch shaft. The correct adjustment screw is accessible through this hole as the channel switch is turned to each channel.
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the fine tuning control to the mid-position of its range.

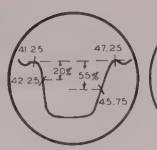


FIG. 1

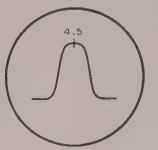


FIG. 2

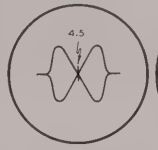


FIG. 3

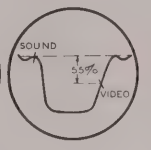


FIG. 4

FIG. 5

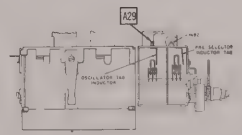


FIG. 6

FIG. 7

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
12	Two 120Ω carbon resistors.	Across antenna terminal with 120Ω in each lead.	213MC (10MC Swp)	211.25MC 215.75MC	13	Vert. amp. thru 47KΩ to point ◇. Low side to chassis.	A13	Adjust to place sound marker in trap notch as in Fig. 4. Video marker should fall at 55%.
			207MC (10MC Swp)	205.25MC 209.75MC	12		A14	
			201MC (10MC Swp)	199.25MC 203.75MC	11		A15	
			195MC (10MC Swp)	193.25MC 197.75MC	10		A16	
			189MC (10MC Swp)	187.25MC 191.75MC	9		A17	
			183MC (10MC Swp)	181.25MC 185.75MC	8		A18	
			177MC (10MC Swp)	175.25MC 179.75MC	7		A19	
			85MC (10MC Swp)	83.25MC 87.75MC	6		A20	
			79MC (10MC Swp)	77.25MC 81.75MC	5		A21	
			69MC (10MC Swp)	67.25MC 71.75MC	4		A22	
			63MC (10MC Swp)	61.25MC 65.75MC	3		A23	
			57MC (10MC Swp)	55.25MC 59.75MC	2		A24	

RF AND MIXER ALIGNMENT

Set the locality switch to "Strong" position. Leave the bias battery connected as under "Video IF Alignment".
Connect the synchronized sweep voltage from the sweep generator to the horizontal input of the oscilloscope for horizontal deflection.
The sweep generator output lead should be terminated with its characteristic impedance, usually 50 ohms.
Set the fine tuning control to the mid-position of its range.

	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
13	Two 120Ω carbon resistors.	Across antenna terminals with 120Ω in each lead.	207MC (10MC Swp)	205.25MC 209.75MC	12	Vert. amp. thru 10KΩ to point ◇. Low side to chassis.	A25, A26 A27	Adjust for response curve similar to Fig. 5. with markers above 90%.
14	"	"	213MC (10MC Swp)	211.25MC 215.75MC	13	"		Check for response similar to Fig. 5. If markers fall below 70% on any channel, make compromise adjustments of A25, A26 and A27 with channel switch set to that channel. Check all other channels to see that they have not been seriously affected.
			201MC (10MC Swp)	199.25MC 203.75MC	11			
			195MC (10MC Swp)	193.25MC 197.75MC	10			
			189MC (10MC Swp)	187.25MC 191.75MC	9			
			183MC (10MC Swp)	181.25MC 185.75MC	8			
			177MC (10MC Swp)	175.25MC 179.75MC	7			
			85MC (10MC Swp)	83.25MC 87.75MC	6			
			79MC (10MC Swp)	77.25MC 81.75MC	5			
			73MC (10MC Swp)	71.25MC 75.75MC	4			
			63MC (10MC Swp)	61.25MC 65.75MC	3			
			57MC (10MC Swp)	55.25MC 59.75MC	2			

40MC TRAP ALIGNMENT

The 40MC trap (A28) will require adjustment only where a local interfering signal from 40MC thru 45MC affects the picture. In such cases A28 should be adjusted for minimum 40MC beat interference in the picture.

UHF TUNER ALIGNMENT

The UHF tuner has been properly aligned at the factory and is very stable. Alignment should not be attempted unless absolutely necessary. Use extreme care to see that parts location and lead dress are not altered in the UHF tuner.
Switch VHF tuner to "UHF" position.
Loosely couple a UHF marker generator to the UHF sweep generator output lead.
Set the Locality Adjuster switch to "Weak" position.

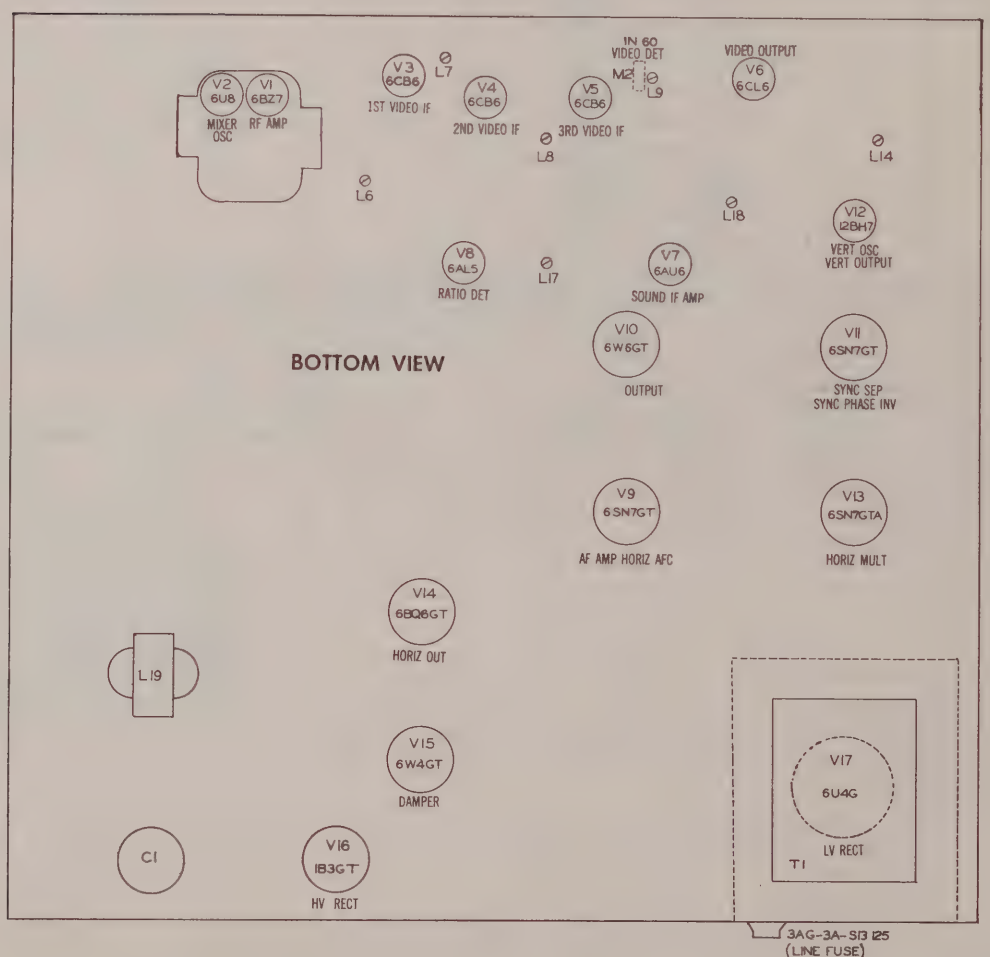
	DUMMY ANTENNA	SWEEP GENERATOR COUPLING	SWEEP GENERATOR FREQUENCY	MARKER GENERATOR FREQUENCY	CHANNEL	CONNECT SCOPE	ADJUST	REMARKS
15	Two 120Ω carbon resistors.	Across UHF antenna terminals with 120Ω in each lead.	460MC (use maximum sweep width)	460MC	UHF tuner fully counter clockwise	Vert. amp. thru 10KΩ to point ◇. Low side to chassis.	A29	Carefully adjust A6 exactly 10 turns counter clockwise. Adjust A29 until 460MC marker is centered on response curve as in Fig. 7. If A29 has insufficient range and 460MC marker cannot be centered on response curve carefully bend the oscillator inductor tab (see Fig. 8) and readjust A29 until marker is properly centered.
16			"	"	"	"		Carefully bend the pre-selector inductor tab (see Fig. 8) for maximum amplitude response similar to Fig. 7. Repeat steps 15 and 16. Carefully adjust A6 exactly 10 turns clockwise so that core is in its original position.

SENTINEL MODELS 1U-701, 1U-711, 1U-714, 1U-721, 1U-724, 1U-725, 1U-735, 1U-738, 1U-762, 1U-765, 1U-768, 1U-791

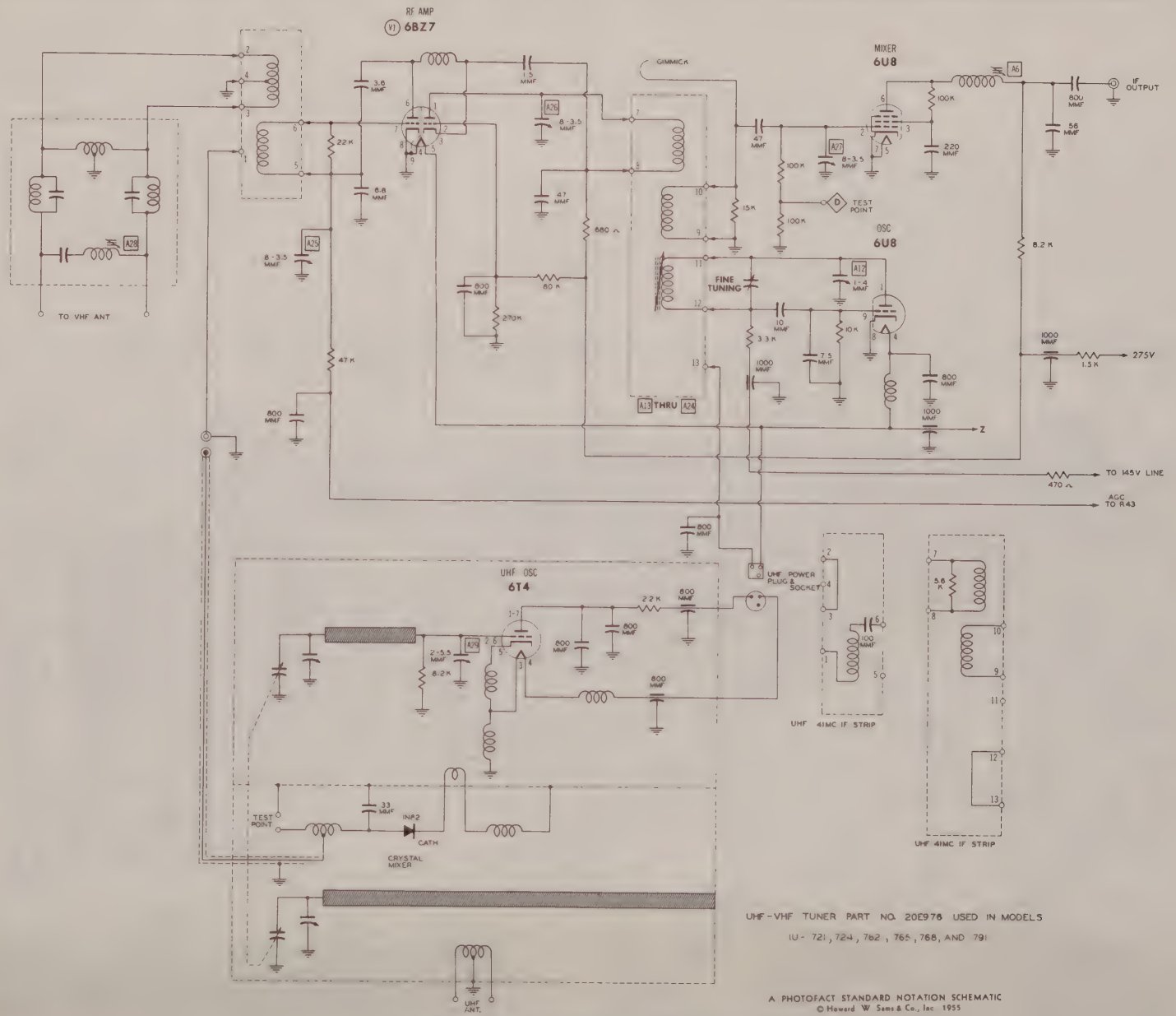
RESISTANCE MEASUREMENTS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6BZ7	†3KΩ	†320KΩ	INF	0Ω	.1Ω	INF	▲4Meg	0Ω	0Ω
V 2	6U8	■3.8KΩ	200KΩ	†100KΩ	.1Ω	0Ω	†9.7KΩ	0Ω	0Ω	10KΩ
V 3	6CB6	▲1.5Meg	47Ω	0Ω	.1Ω	■1KΩ	■1KΩ	0Ω		
V 4	6CB6	▲1.5Meg	56Ω	0Ω	.1Ω	■1KΩ	■1KΩ	0Ω		
V 5	6CB6	.1Ω	120Ω	0Ω	.1Ω	■1KΩ	■1KΩ	0Ω		
V 6	6CL6	230Ω	470KΩ	†18KΩ	.1Ω	0Ω	†4KΩ	0Ω	†18KΩ	470KΩ
V 7	6AU6	3.3Ω	150Ω	0Ω	.1Ω	■10KΩ	■10KΩ	150Ω		
V 8	6AL5	INF	INF	0Ω	.1Ω	10KΩ	0Ω	10KΩ		
V 9	6SN7GT	300KΩ	†33KΩ	1.2KΩ	350KΩ	45KΩ	100KΩ	0Ω	.1Ω	
V 10	6W6GT	INF	.1Ω	†400Ω	†215Ω	†33KΩ	INF	0Ω	120KΩ	
V 11	6SN7GT	2.2Meg	■1Meg	0Ω	22KΩ	■10KΩ	2.2KΩ	0Ω	.1Ω	
V 12	12BH7	●1.7Meg	500KΩ	210Ω	0Ω	0Ω	●1KΩ	●1.7Meg	10KΩ	.1Ω
V 13	6SN7GT	5Meg	†7.8KΩ	1.2KΩ	150KΩ	†120KΩ	1.2KΩ	0Ω	.1Ω	
V 14	6BQ6GT	INF	.1Ω	45KΩ	†15KΩ	470KΩ	†120KΩ	0Ω	0Ω	Top Cap ●16.8Ω
V 15	6W4GT	INF	INF	90KΩ	●50Ω	†65Ω	INF	90KΩ	90KΩ	
V 16	1B3GT		PINS	1 THRU	8 HAVE	INFINITE	RESISTANCE			Top Cap ●406Ω
V 17	5U4G	INF	130KΩ	INF	30Ω	INF	35Ω	INF	130KΩ	
V 18	17HP4	0Ω	14KΩ	Pin 6 †65Ω	Pin 10 ●180KΩ	Pin 11 ■300KΩ	Pin 12 .1Ω			

† MEASURED FROM C1A.
▲ MEASURED WITH LOCALITY SWITCH IN "STRONG SIGNAL" POSITION.
■ MEASURED FROM 145V LINE.
● MEASURED FROM PIN 3 OF V15.



TUBE PLACEMENT CHART



UHF-VHF TUNER PART NO. 20E978 USED IN MODELS

IU-721, 724, 762, 765, 768, AND 791

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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ALTERNATE TUNER SCHEMATIC

PROPERTY OF
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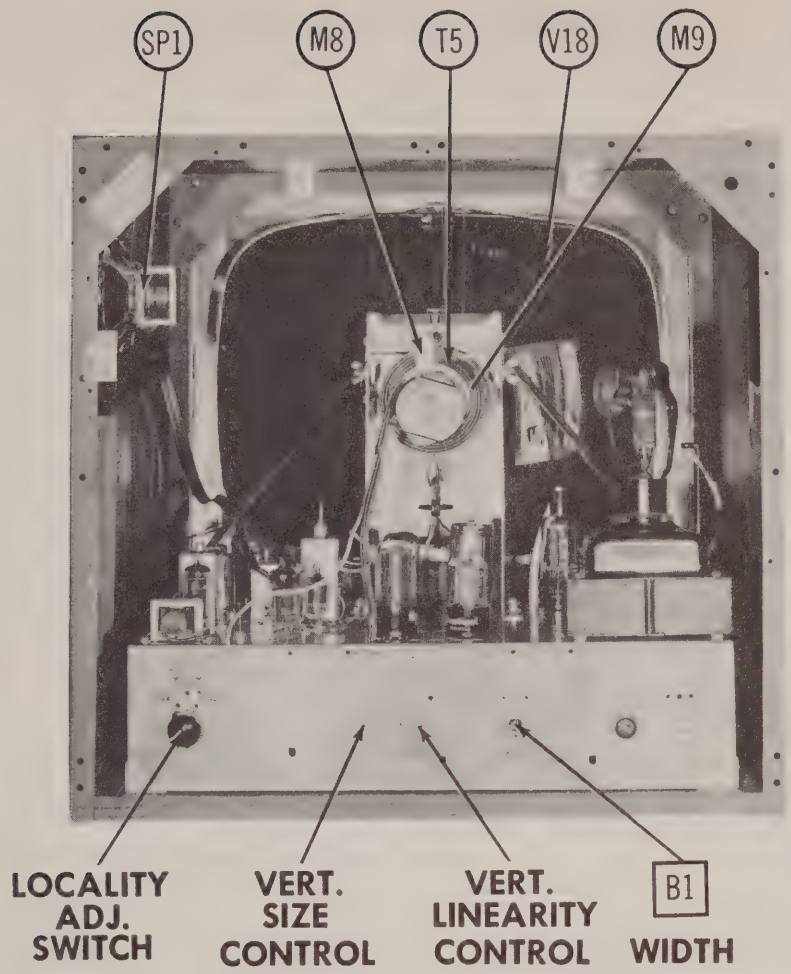
3924 MEADE ST.
DENVER, COLORADO



CABINET—REAR VIEW

HORIZONTAL SWEEP CIRCUIT ADJUSTMENTS

Turn the set on and tune in a TV station preferably a test pattern.

Turn the horizontal hold control adjustment until the picture synchronizes horizontally.

Adjust the width coil slug (B1) for a picture slightly wider than necessary to fill the picture mask horizontally.

TROUBLE SHOOTING AIDS

SWEEP

HORIZONTAL

LOSS OF SWEEP

Follow procedure outlined under "Loss of High Voltage."

INSUFFICIENT SWEEP

Check by substitution V14, V15 and V17. Check adjustment B1. Check R88, R86, C81, T3, T5A and other associated components.

DRIVE LINES

Check by substitution V14 and V15. Check T3, T5A, C81, C82, R88 and other associated components.

COMPRESSED LEFT SIDE

Check by substitution V14 and V15. Check horizontal output and damper stages for component failure or change of value.

FOLDS

Follow procedure outlined under "Drive Lines".

PIE CRUST EFFECT

Check by substitution V13, V14 and V15. Check C78 for open. Check L18, C80, C79 and other associated components.

XMAS TREE EFFECT

Check by substitution V13, V14 and V15. Check T3 and T5A for internal arcing. Check L18, C80, C79, R82, R84, R81 and other associated components.

VERTICAL

LOSS OF SWEEP

Substitute V12. Check T4, T5B, T2, C3, C2A, R5, R89 and other associated components.

INSUFFICIENT SWEEP

Substitute V12. Check vertical size and vertical linearity controls for proper operation. Check components associated with V12.

COMPRESSED AT BOTTOM

Substitute V12. Check R5, R72, T4, T5B and other associated components.

COMPRESSED AT TOP

Substitute V12. Check R4, R69, R68, R67 and other associated components.

FOLDS

Substitute V12. Check C71, R70, R69 and other associated components.

SYNC

LOSS OF VERTICAL AND HORIZONTAL SYNC

Substitute V11. Check R55, R57, R60, C64, C65, C67 and other associated components.

LOSS OF VERTICAL SYNC-HORIZONTAL SYNC SATISFACTORY

Substitute V12. Check C68, C69, C70, T2, R65, R64 and other associated components.

LOSS OF HORIZONTAL SYNC-VERTICAL SYNC SATISFACTORY

Check by substitution V9 and V13. Check horizontal AFC network. Check C78, C79, C80, L18 and other associated components.

HORIZONTAL BENDING

Check by substitution V11, V9 and V13. Check horizontal AFC network.

VIDEO

LOSS OF VIDEO

Substitute V6. Check L13, L14, L15, R34, R37, R33, R35, C40 and other associated components.

SOUND BARS (4.5MC BEAT)

Adjust tuner fine tuning for best sound and picture. Check adjustment A11. Check video IF alignment.

POOR CONTRAST

Substitute V6. Check contrast control, picture tube, C47, L13, L15 and other associated components.

NEGATIVE PICTURE

Substitute V6. Check picture tube, video crystal detector and C47. Check video IF alignment.

SMEAR

Substitute V6. Check L10, L11, L13, L15, R37, R34 and other associated components.

WIDE BLACK BAR ACROSS PICTURE

Check by substitution V1, V3, V4, V5 and V6 for heater to cathode leakage.

AUDIO

WEAK OR NO SOUND

Check by substitution V7, V8, V9 and V10. Check stages V9 and V10 using audio signal generator. Apply audio signal across R1B.

If Satisfactory	If Unsatisfactory
Check ratio detector and audio IF stages for component failure or change of value.	Check C57, C61, C62, R54, R53, T7, speaker and other associated components.

BUZZ

Adjust tuner fine tuning for best sound and picture. Check adjustment A10. If still unsatisfactory, check audio IF alignment.

DISTORTED

Follow procedure outlined under "Weak or No Sound".

POWER

DEAD SET

If filaments fail to light, check AC interlock assembly. Check M1 fuse. Check switch on volume control and T1. If filaments light, substitute V17. Check B+ filter and decoupling network.

SMALL AND/OR DIM PICTURE

Substitute V17. Check B+ filter and decoupling network.

PARTS LIST AND DESCRIPTIONS

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA: SENTINEL PART No.	REPLACEMENT DATA: STANDARD REPLACEMENT	RETMA BASE TYPE	NOTES
V1	RF Amplifier	6BZ7	6BZ7	9AJ	
V2	Mixer-Osc.	6U8	6U8	9AE	
V3	1st. Video IF Amp.	6CB6	6CB6	7CM	
V4	2nd. Video IF Amp.	6CB6	6CB6	7CM	
V5	3rd. Video IF Amp.	6CB6	6CB6	7CM	
V6	Video Output	6CL6	6CL6	6CL6	
V7	Sound IF Amp.	6AU6	6AU6	7BK	
V8	Ratio Detector	6AL5	6AL5	6BT	
V9	AF Amp.- Horiz. AFC	6SN7GT	6SN7GT	8BD	
V10	Audio Output	6W6GT	6W6GT	7S	
V11	Sync Sep.- Sync Phase Inverter	6SN7GT	6SN7GT	8BD	
V12	Vert. Osc.- Vert. Output	12BH7	12BH7	9A	
V13	Horiz. Mult.	6SN7GTA	6SN7GTA	8BD	
V14	Horiz. Output	6BQ6GT	6BQ6GT	6AM	6CU6 used in some sets
V15	Damper	6W4GT	6W4GT	4CG	
V16	HV Rectifier	1B3GT	1B3GT	3C	
V17	LV Rectifier	5U4G	5U4G	5T	

CATHODE-RAY TUBE

ITEM No.	REPLACEMENT DATA: SENTINEL PART No.	CBS-HYTRON PART No.	GENERAL ELECTRIC PART No.	SYLVANIA PART No.	WESTINGHOUSE PART No.	RETMA BASE TYPE	NOTES
V18	17HP4/17RP4	17HP4/17RP4	17HP4/17RP4	17HP4/ 17RP4	17HP4/17RP4	12L	① Circuit change necessary.
	21ZP4A	21ZP4A	21ZP4A	21ZP4A 21ZP4 ①	21ZP4A	12N 12D	
	21ZP4B 21YP4A	21ZP4B 21YP4A 21YP4	21ZP4B 21YP4A	21ZP4B 21YP4A 21AFP4 ①	21ZP4B 21YP4A 21YP4	12N 12L 12L 12M	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING: CAP.	RATING: VOLT	REPLACEMENT DATA: SENTINEL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C1A	▲40	350	25E78	E4C629		C118			TVL-3764	
B	■80	350				BR4035			TVA-1611	
C	▲100	200								
C2A	▲60	200		AFH2-60		B046		FP330.7	TVL-3670	Red
B	■10	350								
C3	20	450	25E64	PRS450/20		BR2045		TC75	TVA-1709	
C4A	60	250	25E62	PRS450/60		BR6025		TC68	TVA-2525	Red
B	5	250		PRS250/4		BR425		TC50X		
C5	10	50	25E66	PRS50/10		BR105		TC32	TVA-1304	
C6	10	50	25E66	PRS50/10		BR105		TC32	TVA-1304	
C7	1000		CD8X-102Z	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C8	3		13L8C030K	SI3NP0	TCZ-3.3	TZ06	NP0K-030	ZT-553	5TCCB-V33	
C9	3-9		31A-056-2							
C10	.5-3		31A-056-1		829-3		3115-01-0R5	CT565A		
C11	1000		13M28N1027-03	EF-001	MFT-1000				503C-D1	
C12	1.5		13L8C1R5C	SI1.5NP0	TCZ-1.5	TZ04	NP0K-1R5	ZT-5515	5TCCB-V15	
C13	47		13L8Q470K							
C14	1000		13M-28N1027-03	EF-001	MFT-1000				503C-D1	
C15	47		13M20U470K-R							
C16	.5-3		31A-056-1		829-3		3115-01-0R5	CT565A		
C17	220		13L12D221K	BPD-00022	D6-221	G051	GP1K-221	UC-5322	5GA-T22	
C18	10		13L8T100A	SI10N750	TCN-10	N018	N750K-100	NT-541	5TCU-Q1	
C19	5		13L8UA050C	SI5NP0	TCZ-4.7	Z010	NP0K-050	ZT-555	5TCCB-V47	
C20	.5-3		31A-056-1		829-3		3115-01-0R5	CT565A		
C21	1000		13M-28N1027-03	EF-001	MFT-1000				503C-D1	
C22	68		13L12U680H	SI68N750	TCN-68	TN18	N750K-680		5TCU-Q68	
C23	470		23E2027-14	BPD-00047	DD-471	K060	801-00047	UC-5347	5GA-T47	
C24	1000		13M-28N1027-03	EF-001	MFT-1000				503C-D1	
C25	1000		CD8X-102Z	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C26	1000		23E4004-5	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C27	15			SI15NP0	TCZ-15	TZ11	NP0K-150		5TCC-Q15	
C28	470		23E4000-26	SI470	D6-471	TP46	GP2K-471	UC-5347	5GA-T47	
C29	1000		23E4000-5	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C30	1000		23E4000-5	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C31	15			SI15NP0	TCZ-15	TZ11	NP0K-150		5TCC-Q15	
C32	470		23E4000-26	SI470	D6-471	TP46	GP2K-471	UC-5347	5GA-T47	
C33	1000		23E4000-5	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C34	680		23E4000-28	SI680	D6-681	TP50	GP2K-681	UC-5368	5GA-T68	
C35	680		23E4000-28	SI680	D6-681	TP50	GP2K-681	UC-5368	5GA-T68	
C36	1000		23E4000-5	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C37	3		23E4001-6	SI3NP0	TCZ-3.3	TZ06	NP0K-030	ZT-553	5TCCB-V33	
C38	.1	200	23E3216	P288-1	DF-104	PJ2P1		PT401	2TM-P1	
C39	.25	100	23E122	P288-25		PJ2P25		PT4025	2TM-P25	
C40	5000		23E4004-15	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C41	470		23E4000-26	SI470	D6-471	TP46	GP2K-471	UC-5347	5GA-T47	
C42	.0022		23E3406	P688-0022	D6-222	CUB6D22	GP2-333-222	PT6222	6TM-D22	Note 1
C43	1000		23E4000-30	P688-001	D6-102	CUB6D1	GP2L-102	PT621	6TM-D1	Note 1
C44	.0022		23E3406	P688-0022	D6-222	CUB6D22	GP2-333-222	PT6222	6TM-D22	Note 1
C45	1000		23E4000-30	P688-001	D6-102	CUB6D1	GP2L-102	PT621	6TM-D1	Note 1
C46	30		23E4001-9	SI30NP0	TCZ-30	TZ17	NP0K-300	ZT-5433	5TCC-Q33	
C47	.1	400	23E3416	P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C48	5000		23E4004-15	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C49	5000		23E4004-15	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C50	2		23E4001-7	SI2NP0	TCZ-2.2	TZ05	NP0K-020		5TCCB-V22	
C51	20		23E4001-8	SI20NP0	TCZ-20	TZ13	NP0K-200	ZT-542	5TCC-Q2	
C52	5000		23E4004-15	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C53	5000		23E4004-15	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C54	1000		23E4004-5	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C55	470		23E3500-40			5W5T47		MCE245	MS-35	

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

PARTS LIST AND DESCRIPTIONS (Continued)

CAPACITORS (cont)

ITEM No.	RATING CAP.	RATING VOLT	REPLACEMENT DATA SENTINEL PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	NOTES
C56	1000		25E4000-30	SU1000	D6-102	TP53	GP3L-102	UC-521	5GA-K1	
C57	5000		25E4004-15	BPD-005	DD-502	K060	801-005	DC-525	5HK-D5	
C58	1000		25E4004-5	BPD-001	DD-102	K059	801-001	DC-521	5HK-D1	
C59	.039		23E3423	P488-039		CUB8S39		PT6139	6TM-S39	Note 1
C60	.0033	400	23E3407	P488-0033	D6-333	CUB6D33	GP2-333-332	PT6333	6TM-D33	
C61	.01	400	23E3408	P488-01	D6-103	CUB6D1	GP2-333-103	PT611	6TM-D1	Note 2
C62	.0047	600	23E3908	P488-0047	D6-472	CUB6D47	GP2-333-472	PT6347	6TM-D47	
C63	.1	400	23E3416	P488-1	DF-104	CUB4P1		PT601	4TM-P1	
C64	150		23E4000-20							
C65	.0047	600	23E3908	P488-0047	D6-472	CUB6D47	GP2-333-472	PT6347	6TM-D47	
C66	30		23E4000-9							
C67	.1	200		P388-1	DF-104	P12P1		PT401	2TM-P1	Note 3
C68	.01	400	23E3410	P488-01	D6-103	CUB4D1	GP2-333-103	PT411	4TM-S1	
C69	.0047	400	23E3408	P488-0047	D6-472	CUB4D47	GP2-333-472	PT4347	4TM-D47	
C70	.01	400	23E3424							
C71	.068	400	23E3415	P488-068		CUB4S68		PT4168	4TM-S68	
C72	.047	400	23E3414	P488-047	DF-503	CUB4S47		PT4147	4TM-S47	
C73	470	500	23E3500-40	1468-0005		SWS747		MCE245	MS-35	
C74	1000		23E4004-5	BPD-001	DD-102	K059	801-001	DC-521	5HK-D1	
C75	150		23E4000-20	SU150	D6-151	TP56	GP1K-151	UC-5315	5GA-T15	
C76	.0033	400	23E3407	P488-0033	D6-333	CUB4D33	GP2-333-332	PT4333	4TM-D33	
C77	.0022	400	23E3406	P488-0022	D6-222	CUB4D22	GP2-333-222	PT4222	4TM-D22	
C78	.01	400	23E3410	P488-01	D6-103	CUB4S1	GP2-333-103	PT411	4TM-S1	
C79	390	500	23E3500-39	1468-0004		SWS739		MCE243	MS-34	
C80	3900	500	23E4005-54	1467-004		1WS039		MCE463	MS-24	
C81	470	500	23E3500-40	1468-0004		SWS747		MCE245	MS-35	
C82	5000		23E4004-15	BPD-005	DD-502	K080	801- 005	DC-525	5HK-D5	
C83	.1	400	23E3416	P488-1	DF-104	CUB4P1		PT401	4TM-P1	
C84	.1	600	23E3816	P688-1	DF-104	CUB6P1		PT601	6TM- P1	
C85	47	3000	23E2025-5							
C86	5000		23E4004-15	BPD-005	DD-502	K060	801-005	DC-525	5HK-D5	
C87	.01	800	23E3810	8892X-01	D6-103	PJ6S1	GP3-333-103	PT811	6TM-S1	
C88	.01	600	23E3610	6892X-01	D6-103	PJ6S1	GP2-333-103	PT611	6TM-S1	

Note 1. Not used in models 701, 711, 714, 721, 724 and 791.
Note 2. Not used in models 752, 755, 758, 762, 765 and 768.
Note 3. Some versions may use an .047MFD @ 200V in this application.

CONTROLS

ITEM No.	RATING RESISTANCE	RATING WATTS	REPLACEMENT DATA SENTINEL PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	INSTALLATION NOTES
R1A	1500Ω	½	28E92-2	*QJ-502		F1-8		Contrast tapped at 375Ω & 187Ω panel.
B	1Meg	½				R2-62		Volume tapped at 300KΩ rear.
C	Switch					KB-1		Attach to R1B
R2	5Meg	½	28E109	Q17-141				Brightness
R3A	850KΩ with 250K stop	½	28E111	Q11 137	A47-1Meg-S	AB-59	U-54	Vertical hold - Note 1
B	Shaft		Not Req.	Not Req.	KS8-3	AK-4	Not Req.	Attach to R3A
R4A	4000Ω	½	28E106	Q11-114	A47-4000-S	AB-10	U-14	Vert. Linearity - Note 2
B	Shaft		Not Req.	Not Req.	FKS-1/4	AK-1	Not Req.	Attach to R4A
R5A	4Meg with 1Meg stop.	½	28E110	Q11-141	A47-4Meg-S	AB-86	U-57	Vert. Size - Note 3
B	Shaft		Not Req.	Not Req.	KS8-3	AK-4	Not Req.	Attach to R5A
R6	1Meg	½	28E113					Tone - Note 4

Note 1: Connect a 270KΩ resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from shaft end, terminals down.)
Note 2: Some models may use an alternate control part no. 28E117.
Note 3: Connect a 1Meg resistor in series with the right hand terminal of the control and the lead connecting to the same terminal of the original control. (Control viewed from shaft end, terminals down.)
Note 4: Not used in models 1U-701, 1U-711, 1U-714, 1U-721, 1U-724, and 1U-791.
* CONCENTRIKIT EQUIVALENT: KIT K-5 BASE ELEMENTS & SHAFTS: B17-103XX & P6-302 (PANEL)
B13-137X & R6-324 (REAR)
78-1 SWITCH

RESISTORS

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA SENTINEL PART No.	IRC PART No.	NOTES
R7	22KΩ	½	27E223K-½	BTS-22K	
R8	820KΩ	½	27E824K-½	BTS-820K	
R9	150KΩ	1	27E153K-1	BTA-150K	
R10	470KΩ	½	27E474M-½	BTS-470K	
R11	47KΩ	½	27E473K-½	BTS-47K	
R12	6800Ω	½	27E682K-½	BTS-6800	
R13	100KΩ	½	27E104K-½	BTS-100K	
R14	100KΩ	½	27E104K-½	BTS-100K	
R15	100KΩ	½	27E104K-½	BTS-100K	
R16	8200Ω	½	27E822K-½	BTS-8200	
R17	100KΩ	½	27E103K-½	BTS-10K	
R18	3300Ω	1	27E332K-1	BTA-3300	
R19	1000Ω	½	27E102K-½	BTS-1000	
R20	6800Ω	½	27E682K-½	BTS-6800	
R21	47Ω	½	27E470K-½	BTS-47	
R22	1000Ω	½	27E102K-½	BTS-1000	
R23	1000Ω	½	27E102K-½	BTS-1000	
R24	18KΩ	½	27E183K-½	BTS-18K	
R25	56Ω	½	27E560K-½	BTS-56	
R26	1000Ω	½	27E102K-½	BTS-1000	
R27	18KΩ	½	27E183K-½	BTS-18K	
R28	120Ω	½	27E120K-½	BTS-120	
R29	1000Ω	½	27E102K-½	BTS-1000	
R30	1.5Meg	½	27E155M-½	BTS-1.5Meg	
R31	5600Ω 5%	½	27E562J-½	BTS-5600 5%	
R32	470KΩ	½	27E474M-½	BTS-470K	
R33	270Ω	½	27E271K-½	BTS-270	
R34	5600Ω 5%	½	27E562J-½	BTS-5600 5%	
R35	18KΩ	½	27E183K-2	BTS-18K	
R36	4000Ω	7	27E1016-14		

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA SENTINEL PART No.	IRC PART No.	NOTES
R37	1000Ω	½	27E102K-½	BTS-1000	
R38	100KΩ	½	27E104M-½	BTS-100K	
R39	470KΩ	½	27E474M-½	BTS-470K	
R40	10KΩ	½	27E103K-½	BTS-10K	
R41	100KΩ	½	27E103K-1	BTA-10K	
R42	680KΩ	½	27E684M-½	BTS-680K	
R43	22KΩ	½	27E223K-½	BTS-22K	
R44	2.2Meg	½	27E225M-½	BTS-2.2Meg	
R45	150Ω	½	27E151K-½	BTS-150	
R46	10KΩ	½	27E103K-½	BTS-10K	
R47	470Ω	½	27E471K-½	BTS-470	
R48	33KΩ	½	27E333K-½	BTS-33K	
R49	10KΩ 5%	½	27E103J-½	BTS-10K 5%	
R50	10KΩ 5%	½	27E103J-½	BTS-10K 5%	
R51	68KΩ	½	27E683K-½	BTS-68K	
R52	1200Ω	½	27E122K-½	BTS-1200	
R53	33KΩ	1	27E333K-1	BTA-33K	
R54	150Ω	1	27E151K-1	BTA-150	
R55	470KΩ	½	27E474M-½	BTS-470K	
R56	2.2Meg	½	27E225M-½	BTS-2.2Meg	
R57	1Meg	½	27E105M-½	BTS-1Meg	
R58	22KΩ 5%	½	27E233K-½	BTS-22K 5%	
R59	2200Ω	½	27E222K-½	BTS-2200	
R60	10KΩ	½	27E103K-½	BTS-10K	
R61	560KΩ	½	27E564K-½	BTS-560K	
R62	470Ω	3	27E471K-3	BTS-470	
R63	150Ω	1	27E152K-1	BTA-150	
R64	22KΩ	½	27E233K-½	BTS-22K	
R65	10KΩ	½	27E103K-½	BTS-10K	
R66	4700Ω	½	27E472K-½	BTS-4700	
R67	1000Ω	½	27E102K-½	BTS-1000	Note 1

RESISTORS (cont)

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA SENTINEL PART No.	IRC PART No.	NOTES
R68	3300Ω	2	27E337K-3	BTB-3300	Note 1
R69	6000Ω	4	27E1016-3		Note 2
R70	3900Ω	½	27E392K-½	BTS-3900	
R71	10KΩ	½	27E103K-½	BTS-10K	
R72	2.7Meg	½	27E225M-½	BTS-2.2Meg	
R73	220KΩ	1	27E224M-1	BTA-220K	
R74	1000KΩ	½	27E104K-½	BTS-100K	
R75	150KΩ	½	27E154K-½	BTS-150K	
R76	100KΩ	½	27E104K-½	BTS-100K	
R77	3.3Meg	½	27E335M-½	BTS-3.3Meg	
R78	22KΩ	½	27E223K-½	BTS-22K	
R79	22KΩ	½	27E223K-½	BTS-22K	

Note 1. Not used in all versions.
Note 2. Some versions may use a 8700Ω resistor in this application when 28E117 vert. lin. control is used.
Note 3. Some versions may use a 12KΩ in this application.

ITEM No.	RATING OHMS	RATING WATT	REPLACEMENT DATA SENTINEL PART No.	IRC PART No.	NOTES
R80	4.7Meg	½	27E475M-½	BTS-4.7Meg	
R81	1200Ω	½	27E122K-½	BTS-1200	
R82	5600Ω 5%	½	27E562J-½	BTS-5600 5%	
R83	150KΩ	½	27E154K-½	BTS-150K	
R84	120KΩ	½	27E124K-½	BTS-120K	
R85	2200Ω	1	27E222K-1	BTA-2200	
R86	8200Ω 5%	½	27E822J-½	BTS-8200 5%	
R87	470KΩ	½	27E474M-½	BTS-470K	
R88	15KΩ	5	27E1016-13	1 2/4A-15K	Note 3
R89	120Ω	½	27E121K-½	BTS-120	
R90	6.8Ω	½	27E1016-8		
R91	220KΩ	½	27E224M-½	BTS-220K	

TRANSFORMER (POWER)

ITEM No.	RATING PRI.	RATING SEC. 1	RATING SEC. 2	REPLACEMENT DATA SENTINEL PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	RCA TYPE No.	Halldorson PART No.	Thordarson PART No.
T1	117VAC @ 1.52A	550VCT 230ADC	5VAC @ 3A	22E94	P-8333①					
	SEC. 3	SEC. 4	SEC. 5							
	6.3VAC @ 1.2A	6.3VAC @ 8.3A								

① Drill new mounting holes.

TRANSFORMERS (SWEEP CIRCUITS)

ITEM No.	USE	REPLACEMENT DATA SENTINEL PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	RCA TYPE No.	Halldorson PART No.	Thordarson PART No.
T2	Vert. Osc. Trans.	22E89	A-8125	A-3003	A-97X	209T1 ①	B6702	24A87 ①
T3	Horiz. Output Trans.	20E947-B		HV0-9 * & MWC-1 ②	D-19* & W-11 ②	232T1 * & 218T1 ②	FB41 * & RF800 ②	FLY-14 * & WC-20 ②
T4	Vert. Output Trans.	22E73-2	A-8140 ③	A-3081 ④	A-110X ①	218T1 ②	21B05 ③	26B57 ③
T5A B	Yoke-Horiz. (24MH) Vert. (3.1MH)	20E788-4 20E788-5 ⑤	DY-18A ⑥	MDF-74 ⑦	Y-20-1 ⑧	214D1 ⑦ ⑧	DF603 ⑦ ⑧	Y-11 ⑦ ⑧
T6	Width (7-7MH)	20E952	WC-8 ⑩	MWC-6 ⑩	WC-12 ⑩ ⑪	215R1 ⑩		WC-17 ⑩

① Drill one new mounting hole.
② Mount on inside of high voltage shield.
③ Drill new mounting holes.
④ Use 56-1 turns ratio.
⑤ Alternate yoke used with electro-static focus picture tube.
⑥ Alternate yoke used with electro-magnetic focus picture tube.
⑦ Connect terminal #1 to terminal #5 or #8.
⑧ Use original yoke network.
⑨ Use original rear cover and positioning device.
⑩ Enlarge mounting hole.
⑪ Connect to coded blue and green terminals.
⑫ Connect as auto transformer.

*HORIZONTAL OUTPUT TRANSFORMER CONNECTION DATA

Use Original Width Coil Unless Replacement Type Is Listed

	ORIGINAL TERMINAL CONNECTIONS	Stancor Replacement Connections	Merit Replacement Connections	Triad Replacement Connections	RCA Replacement Connections	Halldorson Replacement Connections	Thordarson Replacement Connections
	8		9	9	10	9	9
	7 & 6		7	8 & 7	8	7	8 & 7
	5		4	4	5	4	4
	4		NC	NC	NC	NC	NC
	3		1	1	3		1
	2		MWC-1 Orange term.	WC-11 Orange term.	2	RF800 #2 term.	WC-20 #2 term.
	1		MWC-1 Black term.	WC-11 Black term.	1	RF800 #4 term.	WC-20 #1 term.
Connect Width Coil Across	3 & 4		MWC-1 Blue & red terminals 3 & 1	WC-11 Blue & red terminals T & 1	212R1 2 & 1	RF800 #1 & #2 terminals 3 & 1	WC-20 #3 & #4 terminals 3 & 1
Special Notes			⑬	⑬		⑫	⑬

⑬ If picture is out of phase reverse primary or secondary of replacement width coil.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE PRI.	IMPEDANCE SEC.	REPLACEMENT DATA SENTINEL PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	NOTES
T7	2.5KΩ	3.4Ω	22E91 22E92 ①	A-2332	A-3025	S-12X	Z1101	22B45	① Used in models using two speakers.

SPEAKER

ITEM No.	RATINGS SIZE	FIELD	V	C	IMP	REPLACEMENT DATA SENTINEL PART No.	VIKING PART No.	QUAM PART No.	NOTES
SP1	5"	PM			3.4Ω	1E58	5J6	5A1	① Used in models 752, 755, 758, 762, 765, and 768.
	6"	PM			3.4Ω	1E49①	6J6	6A1	② Used in models 714 and 724
	8"	PM			3.4Ω	1E34-3 ②	8J9	8A2	③ Used in models 752, 758, 765, and 768.
	10"	PM			3.4Ω	1E43-3 ③	10J11	10A2	

COILS (RF-IF)

ITEM No.	USE	DC RES. PRI.	DC RES. SEC.	REPLACEMENT DATA SENTINEL PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	NOTES
L1A	Ant. Coil	0ΩCT	0Ω	31M-013-3				Channel 2
B	Ant. Coil	0ΩCT	0Ω	31M-013-3				Channel 3
C	Ant. Coil	0ΩCT	0Ω	31M-012-6				Channel 4
D	Ant. Coil	0ΩCT	0Ω	31M-012-5				Channel 5
E	Ant. Coil	0ΩCT	0Ω	31M-012-6				Channel 6
F	Ant. Coil	0ΩCT	0Ω	31M-012-7				Channel 7
G	Ant. Coil	0ΩCT	0Ω	31M-012-8				Channel 8
H	Ant. Coil	0ΩCT	0Ω	31M-012-9				Channel 9
I	Ant. Coil	0ΩCT	0Ω	31M-012-10				Channel 10
J	Ant. Coil	0ΩCT	0Ω	31M-012-11				Channel 11
K	Ant. Coil	0ΩCT	0Ω	31M-012-12				Channel 12
L	Ant. Coil	0ΩCT	0Ω	31M-013-13				Channel 13
L2	Neut. Coil	0Ω		31B-629				
L3A	RF Mixer Grid & Osc. Coils	0Ω		31M-112-2				Channel 2
B	RF Mixer Grid & Osc. Coils	0Ω		31M-112-3				Channel 3
C	RF Mixer Grid & Osc. Coils	0Ω		31M-112-5				Channel 5
D	RF Mixer Grid & Osc. Coils	0Ω		31M-112-4				Channel 4
E	RF Mixer Grid & Osc. Coils	0Ω		31M-112-5				Channel 5
F	RF Mixer Grid & Osc. Coils	0Ω		31M-112-6				Channel 6
G	RF Mixer Grid & Osc. Coils	0Ω		31M-112-7				Channel 7
H	RF Mixer Grid & Osc. Coils	0Ω		31M-112-8				Channel 8
I	RF Mixer Grid & Osc. Coils	0Ω		31M-112-9				Channel 9
J	RF Mixer Grid & Osc. Coils	0Ω		31M-112-10				Channel 10
K	RF Mixer Grid & Osc. Coils	0Ω		31M-112-11				Channel 11
L	RF Mixer Grid & Osc. Coils	0Ω		31M-112-12				Channel 12
L4	Pil. Choke	0Ω		34A-704				
L5	Conv. Plate	.1Ω		31K-109				
L6	1st Video IF	0Ω		20E957	17-4533*		6219*	
L7	2nd Video IF	.1Ω	.1Ω	20E958				Includes 47.25MC trap.
L8	3rd Video IF	.1Ω	.1Ω	20E959				Includes 41.25MC trap.
L9	4th Video IF	.1Ω		20E960				
L10	Series Peaking Coil	2.3Ω		20E982	19-1005		4612	12Microhenries
L11	Shunt peaking coil	15Ω		20E983-19	19-1923		4646	390Microhenries
L12	Cathode choke	1.2Ω		2E92	19-1001	TV-189	4604	1.5Microhenries; IRC part no. CLA
L13	Series Peaking coil	14Ω		20E363-25	19-3250	TV-185	6181	270Microhenries
L14	4.5MC trap	3.5Ω		20E793	20-1004	TV-151	1470	
L15	Shunt peaking coil	18Ω		20E983-26	19-3900			820Microhenries
L16	Sound IF	3.3Ω		20E782	20-1005	TV-151	1468	
L17	Ratio Det.	4.2Ω	1.2ΩCT	20E783	17-1033	TV-110	1466	Tertiary winding. 6Ω
L18	Horiz. Osc.	100Ω		20E831	19-1976	TV-162	6210	

* Use one winding only.

FILTER CHOKE

ITEM No.	RATINGS TOTAL DIRECT CURRENT	RATINGS D.C. RESISTANCE	RATINGS INDUCTANCE @ CURRENT 1000 ⁄	REPLACEMENT DATA SENTINEL PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.
L19	.320A	85.4Ω	1.9HY	22E73-2	C-2326①	C-2986①	C-31X	C5037①	26C44①

① Drill one new mounting hole.

FUSES

ITEM No.	TYPE	RATING	REPLACEMENT DATA SENTINEL PART No. FUSE	SENTINEL PART No. HOLDER	LITTELFUSE PART No. FUSE	LITTELFUSE PART No. HOLDER	BUSS PART No. FUSE	BUSS PART No. HOLDER
M1	3AG 8/B	3A 125V	40E8-10	55E57	313003 (3A-3AG-8/B)	342001	MDL3	HKP

CRYSTAL DIODES

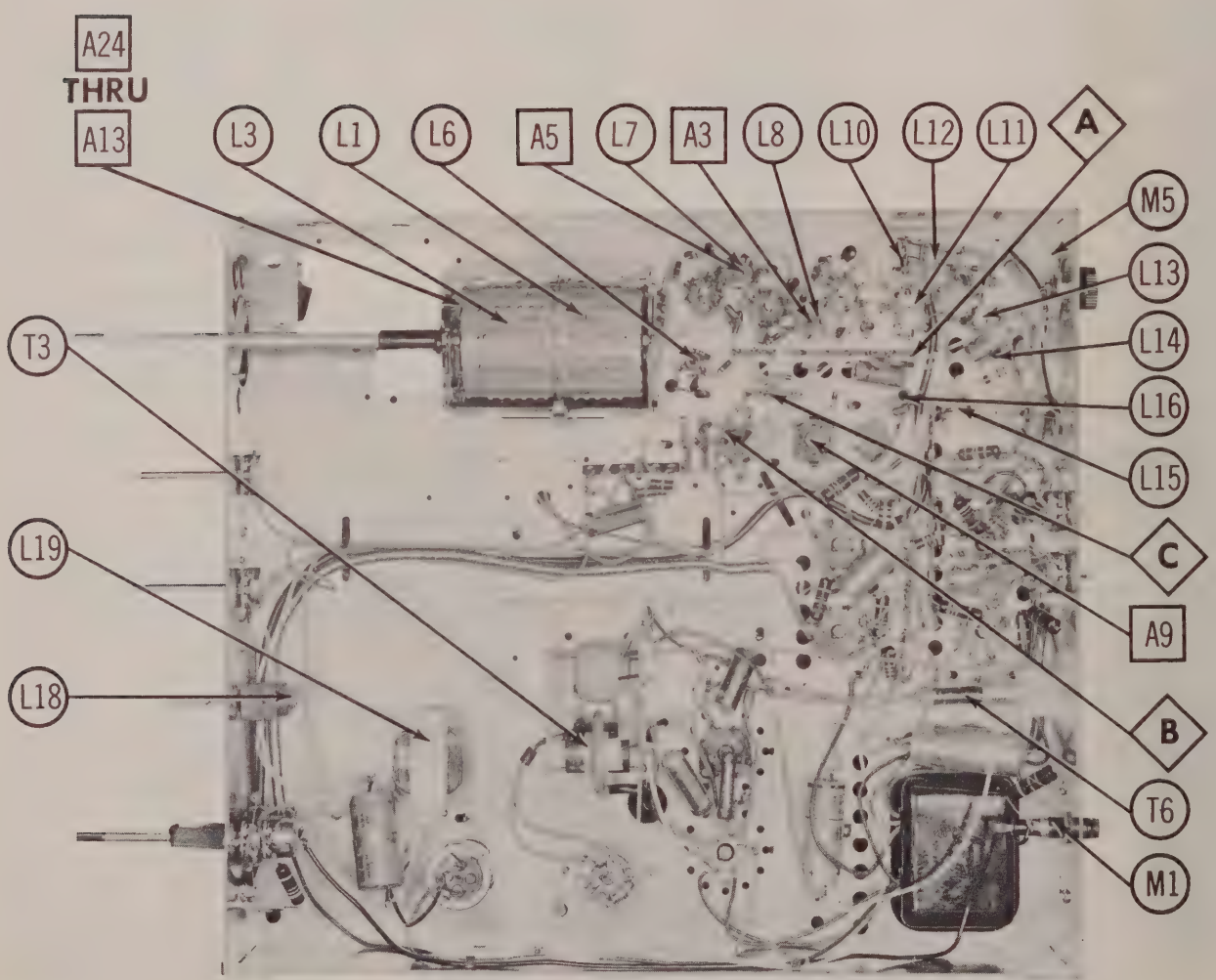
ITEM No.	ORIG. TYPE	REPLACEMENT DATA SENTINEL PART No.	SYLVANIA PART No.	FEDERAL PART No.	NOTES
M2	1N60	95E1	1N60 or 1N132	1N60 or 1N54A	Video Det.

SENTINEL MODELS 1U-701, 1U-711, 1U-714, 1U-721, 1U-724, 1U-752, 1U-755, 1U-758, 1U-762, 1U-765, 1U-768, 1U-791

PARTS LIST AND DESCRIPTIONS (Continued)

MISCELLANEOUS

ITEM No.	PART NAME	SENTINEL PART No.	NOTES
M3	Tuner	20E950	VHF-Models-1U-701, 1U-711, 1U-714, 1U-752, 1U-755, 1U-758
	Tuner	20E976	VHF-UHF Models-1U-721, 1U-724, 1U-762, 1U-765, 1U-768, 1U-791
M4	Home trap ass'y.	31K-225-01	VHF Ant. Input
M5	Switch	29E30-2	Locality Adjuster
M6	Switch	29E33	Depth Control - Not used in all versions
M7	Focus magnet	62E9	Includes centering device - Models 1U-711, 1U-714, 1U-721, 1U-724, 1U-752, 1U-755, 1U-758, 1U-762, 1U-765, 1U-768
M8	Centering device		Part of yoke (T5) - Models 1U-701, 1U-791, 1U-711, 1U-714, 1U-721, 1U-724, 1U-752, 1U-755, 1U-758, 1U-762, 1U-765, 1U-768
M9	Ion trap	15E174-4*	*Alternate part #15E174-6
	Knob	37E89	Fine Tuning
	Knob	37E89-2	Contrast
	Knob	37E90	On-Off-Volume
	Knob	37E90-2	VHF Channel Selector - Models 1U-701, 1U-711, 1U-714, 1U-752, 1U-755, 1U-758
	Knob	37E90-3	UHF Channel Selector - Models 1U-721, 1U-724, 1U-762, 1U-765, 1U-768, 1U-791
	Knob	37E88-10	UHF Channel Indicator models 1U-721, 1U-724, 1U-762, 1U-765, 1U-768, 1U-791
	Tabs	P-1060	UHF Channel Indicator Models 1U-701, 1U-711, 1U-714, 1U-752, 1U-755, 1U-758
	Safety Glass	9E45-11	Models 1U-701, 1U-791
	Safety Glass	9E45-12	Models 1U-752, 1U-755, 1U-758, 1U-762, 1U-765, 1U-768
	Safety Glass	9E50	Models 1U-711, 1U-714, 1U-721, 1U-724
	Mask	36E99	Models 1U-701, 1U-791
	Mask	36E98-2	Models 1U-711, 1U-714, 1U-721, 1U-724, 1U-752, 1U-755, 1U-758, 1U-762, 1U-765, 1U-768



CHASSIS BOTTOM VIEW-TRANS., INDUCTOR & ALIGN. IDENTIFICATION

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

TROUBLE SHOOTING AIDS (cont)

HIGH VOLTAGE

LOSS OF HIGH VOLTAGE

Check by substitution V13, V14, V15 and V16. Check waveform W13.

If Satisfactory	If Unsatisfactory
Check T3, T5A, T6, C84, C83, R86 and other associated components.	Check L18, C80, C79, C82, R84, R82, R81 and other associated components.

INSUFFICIENT HIGH VOLTAGE

Check by substitution V14, V15 and V17. Check adjustment B1. Check C82, C83, R88 and other associated components.

BLOOMING

Check by substitution V14, V15, V16 and V17. Check R90, R88, C82 and other associated components.

GENERAL

RASTER, SOUND, NO PICTURE

Follow procedure outlined under "Loss of Video".

RASTER, PICTURE, NO SOUND

Follow procedure outlined under "Weak or No Sound".

RASTER, NO SOUND, NO PICTURE

Check by substitution V1, V2, V3, V4, V5 and V6. Check video IF components for failure or change of value.

NO RASTER, NO SOUND

Follow procedure outlined under "Dead Set".

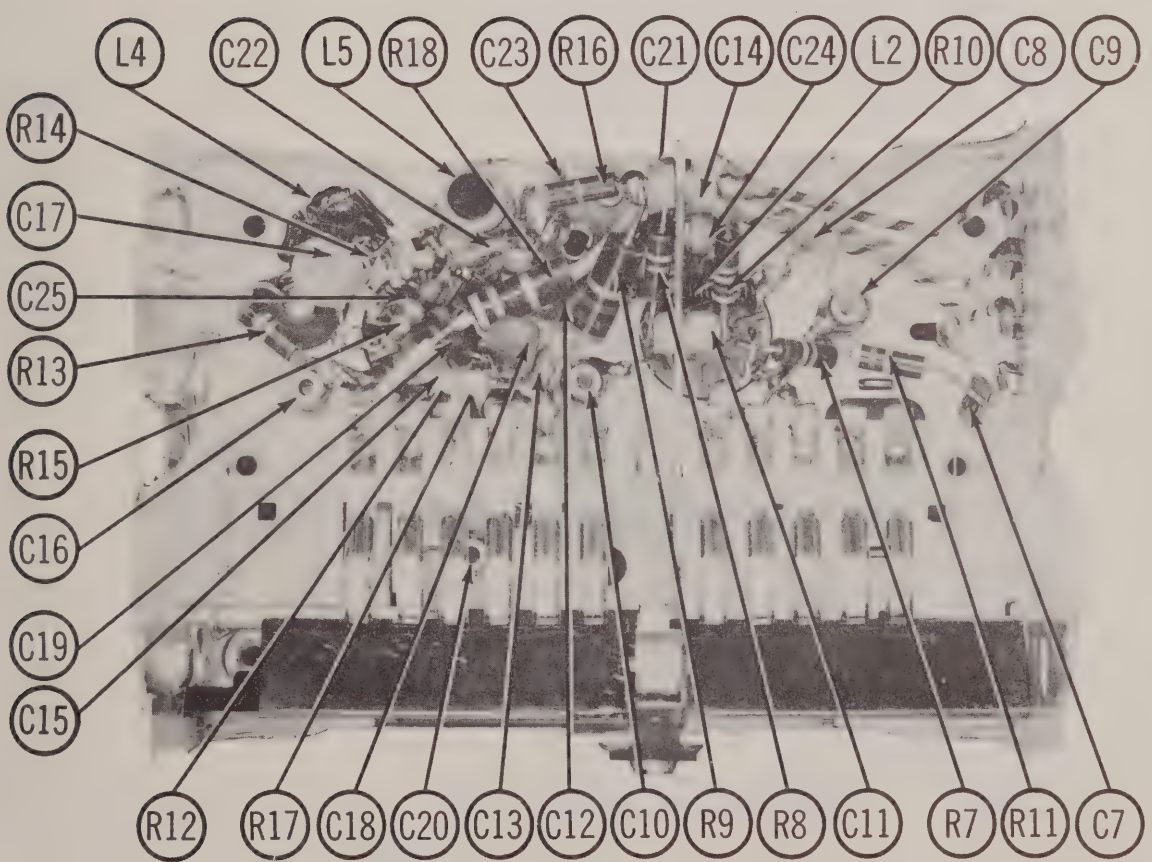
KEYSTONE EFFECT

Check T5 and its associated components.

INTERMITTENT STREAKS

Check high voltage section for corona discharge and arcing.

Symptoms shown are assumed and are not indicative of the quality and workmanship of this equipment.



RF TUNER BOTTOM VIEW

SERVICING IN THE FIELD

TUNER OSCILLATOR ADJUSTMENTS

Touch-up adjustments of the VHF Tuner Oscillator Circuit may be accomplished by removal of the Channel Selector and Fine Tuning knobs. The adjustments are accessible, one at a time, through the small hole in the cabinet to the left of the Channel Selector shaft.

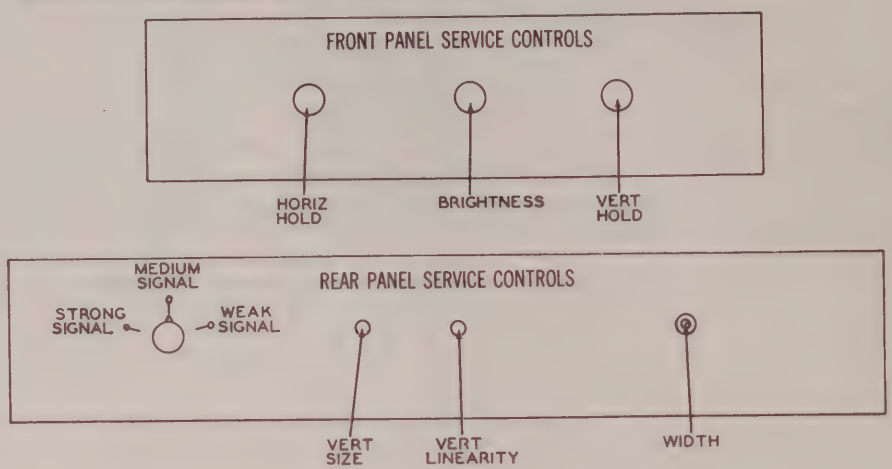
PICTURE TUBE SAFETY GLASS CLEANING

For picture tube safety glass cleaning, it is necessary to remove chassis. (See disassembly instructions.)

PICTURE TUBE REMOVAL

For picture tube removal it is necessary to remove chassis. (See disassembly instructions.)

SERVICE ADJUSTMENT LOCATION



HORIZONTAL OSCILLATOR FIELD ADJUSTMENT

Adjustment of the horizontal oscillator circuit can be made from the front panel service controls. Adjust the horizontal hold control until picture synchronizes horizontally.

SOUND IF DETECTOR BUZZ ADJUSTMENT

To eliminate Sound IF Detector Buzz, adjust the Ratio Detector Secondary L17 located on top of chassis. (See tube placement chart.)

FUSES

One fuse is used for L. V. Power Supply protection. (For location see Tube Placement Chart.)

CENTERING

Centering is accomplished mechanically by adjusting two magnetic rings around the neck of the picture tube, located flush against the deflection yoke. Rotate the two rings around the neck of the tube until the picture is properly centered.

DISASSEMBLY INSTRUCTIONS

1. Remove 4 push-on type control knobs from front panel.
2. Remove 7 metal screws. Remove rear cover.
3. Loosen 2 metal screws from antenna bracket. Remove bracket.
4. Disconnect 2 speaker leads from output transformer.
5. Remove 4 speaker nuts. Remove speaker.
6. Remove 4 chassis bolts, remove chassis.

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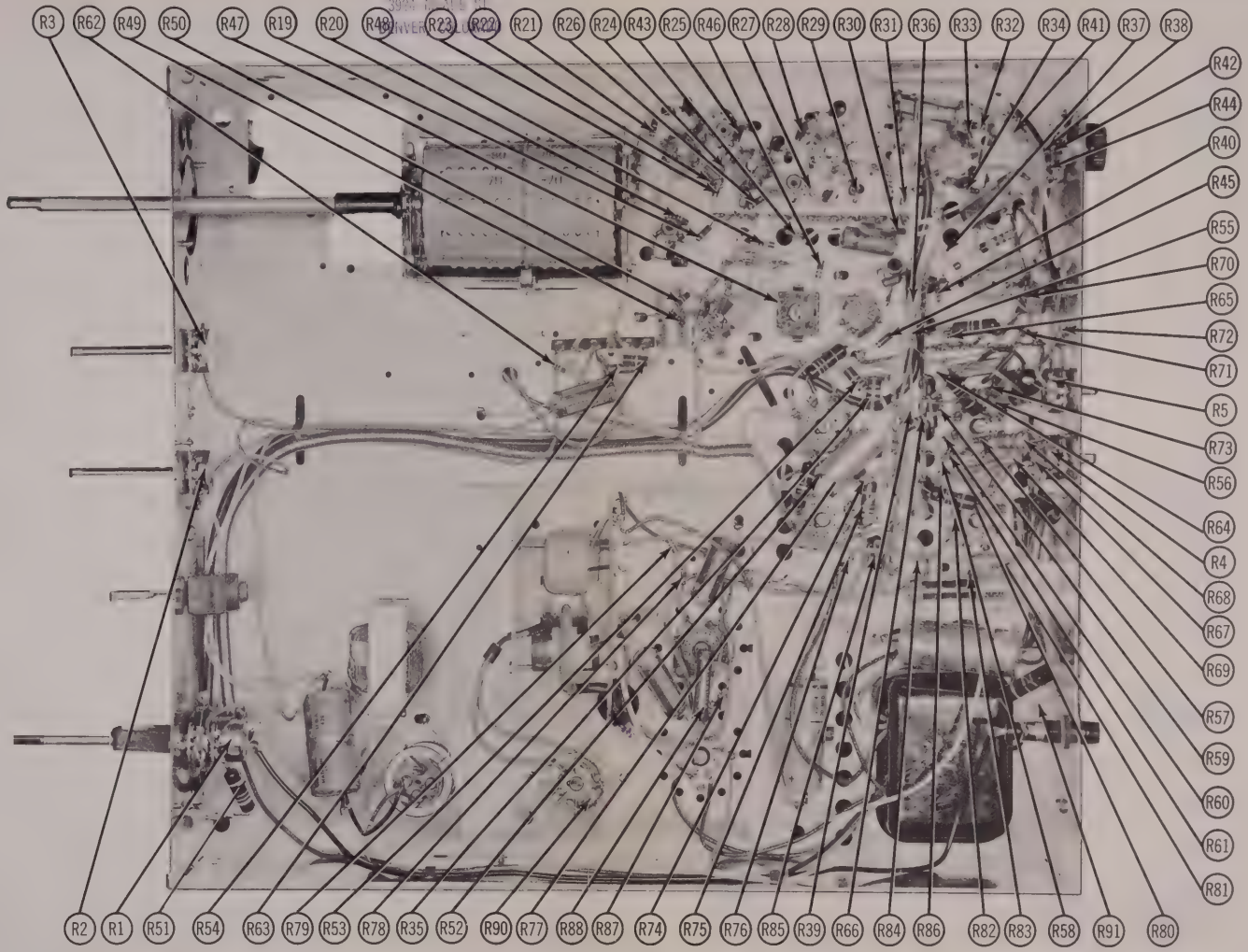
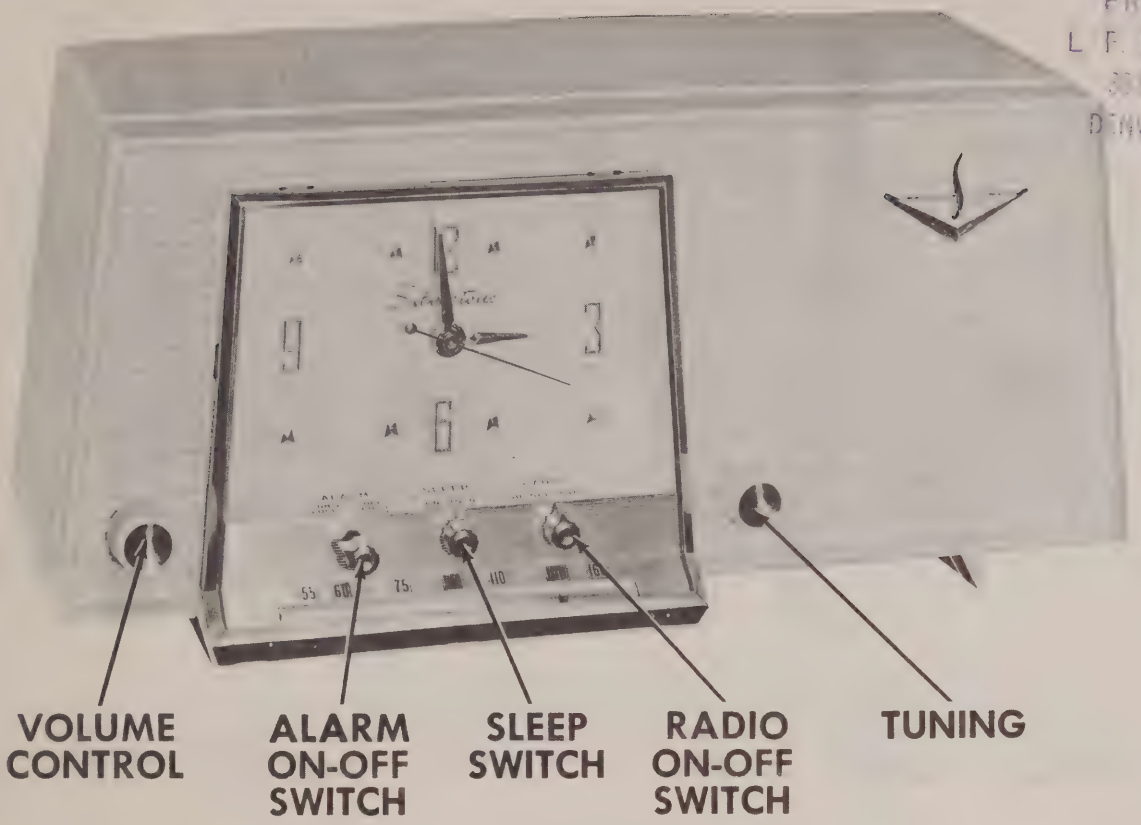


CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

PROPERTY OF
L. F. [illegible]
DENVER, COLORADO

SILVERTONE MODELS
4025, 4026 (Ch. 528.306)



SILVERTONE MODELS
4025, 4026 (Ch. 528.306)

TRADE NAME	Silvertone Model 4025, 4026 (Ch. 528.306)
SUPPLIER	Sears Roebuck & Co., 925 S. Homan, Chicago, Ill.
TYPE SET	AC Operated AM Superheterodyne Receiver With Electric Clock
TUBES (Six)	Types 6BJ6 RF Amp., 12BE6 Conv., 6BJ6 IF Amp., 12AT6 Det.-AVC-AF Amp., 50C5 Output, 35W4 Rectifier
POWER SUPPLY	105-125 Volts AC-60 Cycles — RATING .27 Amp. @ 117 Volts AC
TUNING RANGE—BROADCAST	535-1610KC

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Loop should be maintained in same relative position to chassis as when receiver is in cabinet.
To set pointer, turn tuning capacitor fully closed and set pointer to last reference mark at low frequency end of dial.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1.	.1MFD	High side to pin 7 (grid) of 12BE6 (V2). Low side to chassis.	455KC (400~Mod)	Tuning gang fully open	Across voice coil	A1, A2, A3, A4	Adjust for maximum output. If isolation transformer is not used, reduce dummy antenna to .001MFD to reduce hum modulation.
2.	"	"	1610KC	"	"	A5	"
3.		Loop	1400KC	Tune to 1400KC signal	"	A6, A7	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.

HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		Silvertone PART No.	STANDARD REPLACEMENT		
V1	RF Amplifier	6BJ6	6BJ6	7CM	
V2	Converter	12BE6	12BE6	7CH	
V3	IF Amplifier	6BJ6	6BJ6	7CM	
V4	Det.-AVC-AF Amp.	12AT6	12AT6	7BT	
V5	Output	50C5	50C5	7CV	
V6	Rectifier	35W4	35W4	5BQ	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	Silvertone PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	70	150	T18-326	PRS150/80-40		BBRD-8415		TCD-498	TVA-2460	Red
B	30	150								Yellow
C2	.05	200	T16-197	P288-05	DF-503	PJ2S5		PT415	2TM-S5	
C3	.05	400	T16-197	P488-05	DF-503	CUB4S5		PT415	4TM-S5	
C4	47		T15-229	SI47N750	TCN-47	N033	N750K-470	NT-5475	5TCU-Q47	
C5A	220		♦T17-111	♦PA-113-2	♦PC-151	♦116TM2	♦1408-02		♦DT-2	
B	5000									
C	5000									
D	250									
E										
C6	5000		T16-177	BPD-005	DD-502	K080	801-005	DC-525	5HK-D5	
C7	.047	400	T16-189	489ZX-047	DF-503	CUB4S5		PT415	4TM-S5	
C8	.05	400	T16-189	489ZX-047	DF-503	CUB4S5		PT415	4TM-S5	

♦ Items C5A, C5B, C5C, C5D, C5E, R9A, R9B and R9C are combined in one unit.
When replacing items separately items C5D and C5E should total 250MMF.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	Silvertone PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1A	1Meg	½	A24-218	Q13-137	A47-1Meg-Z	BSK-70	U-53	Volume
B	Shaft		Not Req.	Not Req.	KSS-3	Not Req.	Not Req.	Attach to R1A

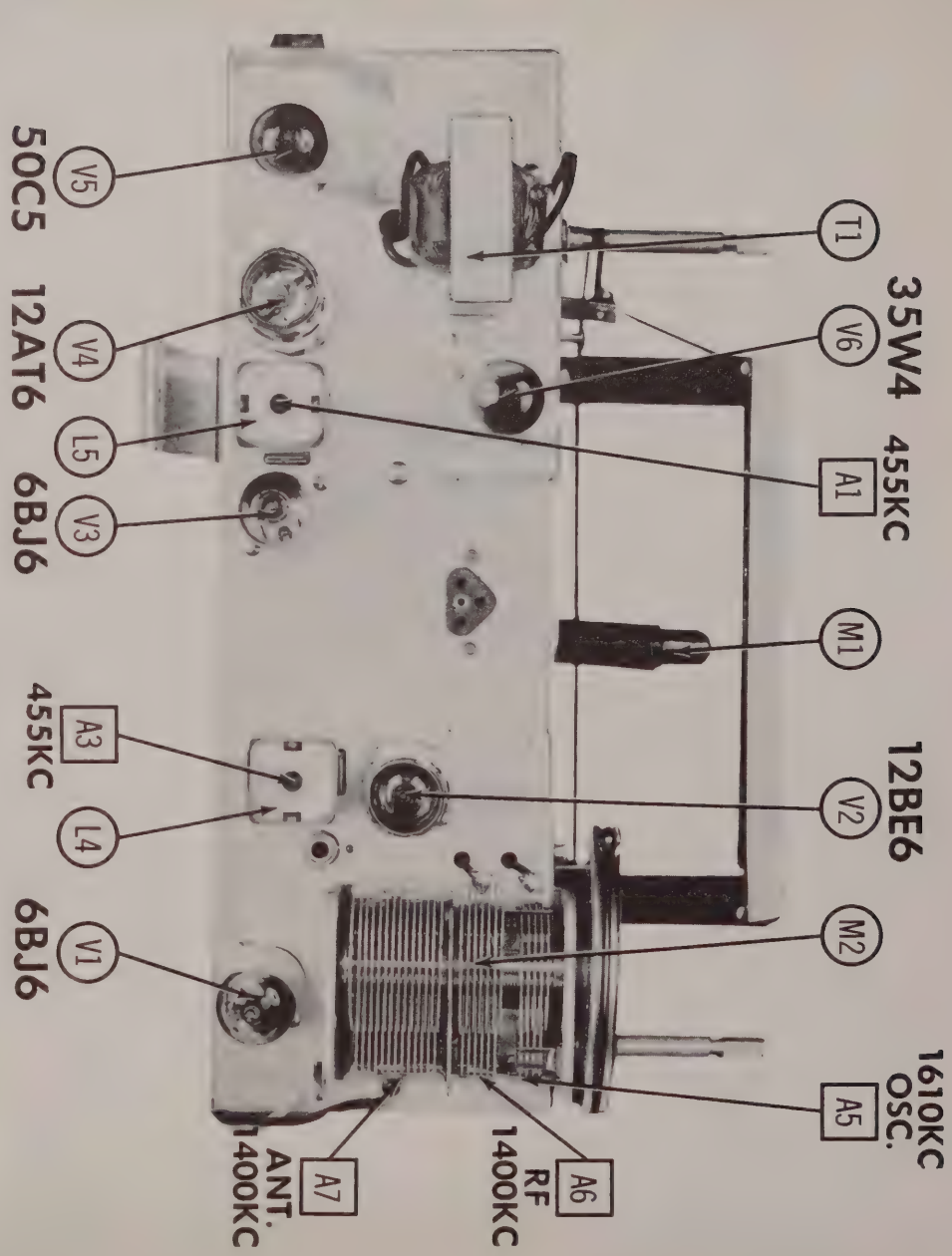
RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Silvertone PART No.	IRC PART No.	
R2	82Ω	½	760-776	BTS-82	
R3	4700Ω	½	T60-847	BTS-4700	
R4	100KΩ	½	T60-727	BTS-100K	
R5	22KΩ	½	T60-659	BTS-22K	
R6	47Ω	½	T60-798	BTS-47	
R7	47KΩ	½	T60-730	BTS-47K	
R8	2.2Meg	½	T60-726	BTS-2.2Meg	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Silvertone PART No.	IRC PART No.	
R9A	6.8Meg	½	♦T17-111	BTS-6.8Meg	
B	470KΩ	½		BTS-470K	
C	470KΩ	½		BTS-470K	
R10	120Ω	½	T60-702	BTS-120	
R11	10KΩ	2	T60-698	BTB-10K	
R12	1000Ω	1	T60-732	BTA-1000	
R13	15Ω	½	T60-971	BTS-15	
R14	330Ω	½		BTS-330	Note 1

Note 1. Not used in all versions.
♦ Items R9A, R9B, R9C, C5A, C5B, C5C, C5D, Aand C5E are combined in one unit.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS (Continued)

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	Silvertone PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	
T1	2.4KΩ	3.4Ω	80-312	A-3876	A-2829	S-1X	Z1001	24S50	

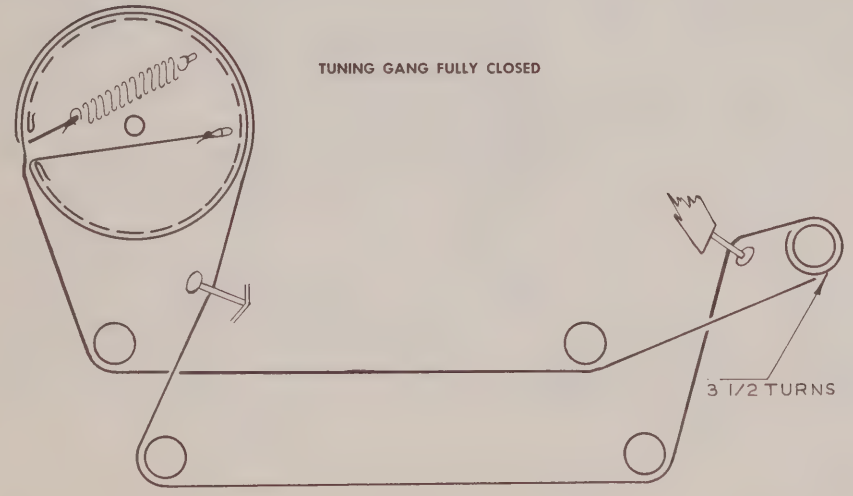
COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	Silvertone PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	Loop Ant.	2.9Ω		T82-89				Includes cabinet back
L2	RF Coil	8Ω	13Ω *	T10-655				
L3	Osc. Coil	.9Ω	9.5Ω	T10-654				
L4	Input IF	15Ω	15Ω	T10-521	16-6758	BC-352	12-C1	
L5	Output IF	9Ω	9Ω	T10-529	16-6758	BC-353	12-C2	

* Tapped @ 9Ω.

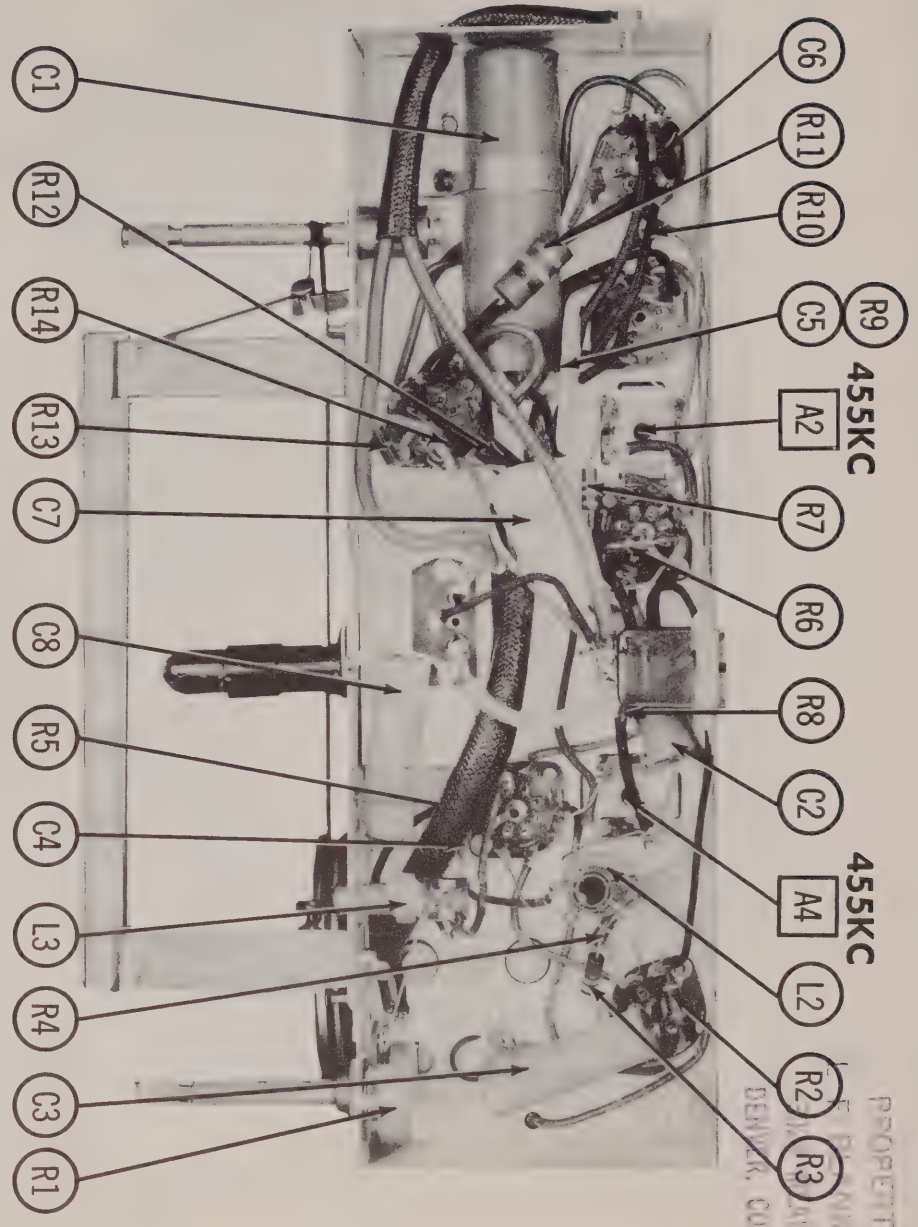
MISCELLANEOUS

ITEM No.	PART NAME	Silvertone PART No.	NOTES
M1	Dial Light	T89-7	#47, Bayonet
M2	Tuning Cap.	T19-234	30-487MMF, 12-210MMF, 8-80MMF
M3	Clock Assy &		
	Timer	T84-1154	Includes clock face
	Cabinet	T42-663	Model 4025
	Cabinet	T42-659	Model 4026
	Knob	T52-456	Clock Alarm & Radio controls (3 used)
	Knob	T52-452	Volume & tuning - Model 4025
	Knob	T52-463	Volume & tuning - Model 4026
	Clock Face	T67-581	
	Clock	T58-100	Second Hand (gold)
	Clock	T58-101	Minute hand (gord)
	Clock	T58-102	Hour hand (gold)
	Clock	T58-103	Alarm hand (gold)
	Crystal	T48-81	Clock & dial
	Dial Pointer	T58-104	



DIAL CORD STRINGING

CHASSIS—BOTTOM VIEW



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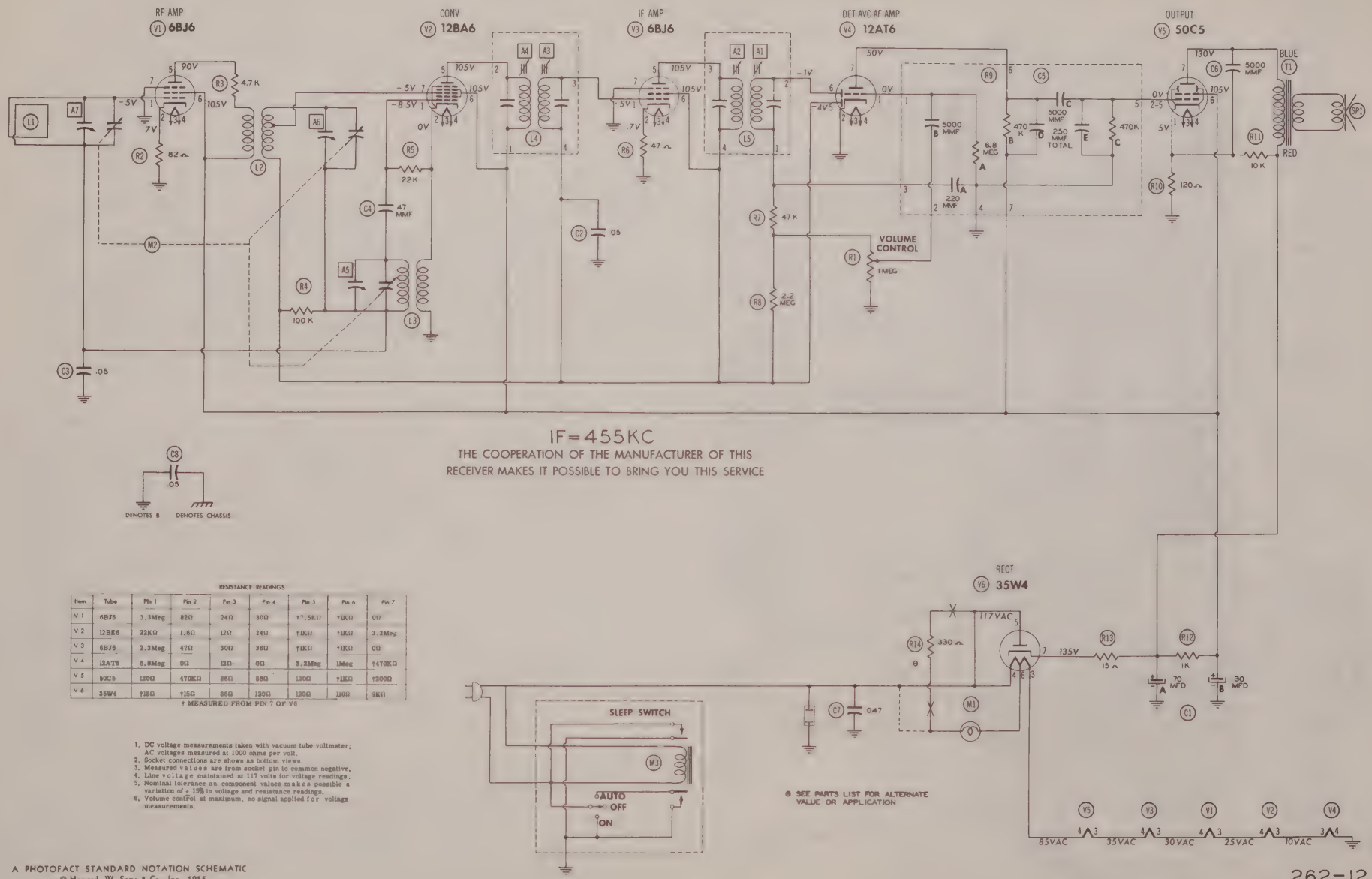
DENVER, COLORADO

SILVERTONE
MODEL 4025 (Ch. 528. 306)



IF=455KC

THE COOPERATION OF THE MANUFACTURER OF THIS RECEIVER MAKES IT POSSIBLE TO BRING YOU THIS SERVICE

RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7
V 1	6BJ6	3.3Meg	82Ω	24Ω	30Ω	†7.5KΩ	†1KΩ	0Ω
V 2	12BE6	22KΩ	1.6Ω	12Ω	24Ω	†1KΩ	†1KΩ	3.2Meg
V 3	6BJ6	2.3Meg	47Ω	30Ω	36Ω	†1KΩ	†1KΩ	0Ω
V 4	12AT6	6.8Meg	0Ω	13Ω-	0Ω	3.2Meg	1Meg	†470KΩ
V 5	50C5	130Ω	470KΩ	36Ω	86Ω	120Ω	†1KΩ	†200Ω
V 6	35W4	†15Ω	†15Ω	86Ω	130Ω	120Ω	110Ω	9KΩ

† MEASURED FROM PIN 7 OF V6

1. DC voltage measurements taken with vacuum tube voltmeter; AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views.
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings.
5. Nominal tolerance on component values makes possible a variation of ± 15% in voltage and resistance readings.
6. Volume control at maximum, no signal applied for voltage measurements.

⊕ SEE PARTS LIST FOR ALTERNATE VALUE OR APPLICATION

A PHOTOFACT STANDARD NOTATION SCHEMATIC

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262-12

PROPERTY OF
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[illegible] MEADE ST.
DENVER, COLORADO

SILVERTONE MODEL
4200 (Ch. 757.140)

SILVERTONE MODEL
4200 (Ch. 757.140)

TRADE NAME	Silvertone Model 4200 (Ch. 757.140)		
SUPPLIER	Sears Roebuck & Co., 925 S. Homan, Chicago, Ill.		
TYPE SET	AC Operated AM-FM Superheterodyne Receiver		
TUBES (Eight)	Types 6CB6 FM RF Amp., 12AT7 FM Mixer & Osc., 6BE6 AM Conv., 6BA6 AM-FM 1F Amp., 6BA6 2nd FM IF Amp., 6T8 Ratio Det-AM Det-AVC AF Amp., 6V6GT Output, 6X4 Rectifier		
POWER SUPPLY	105-120 Volts AC - 50/60 Cycles	RATING	.21 Amp. @ 117 Volts AC
TUNING RANGE--BROADCAST	535KC - 1640KC	FREQ. MOD.	87.5 - 108.5MC

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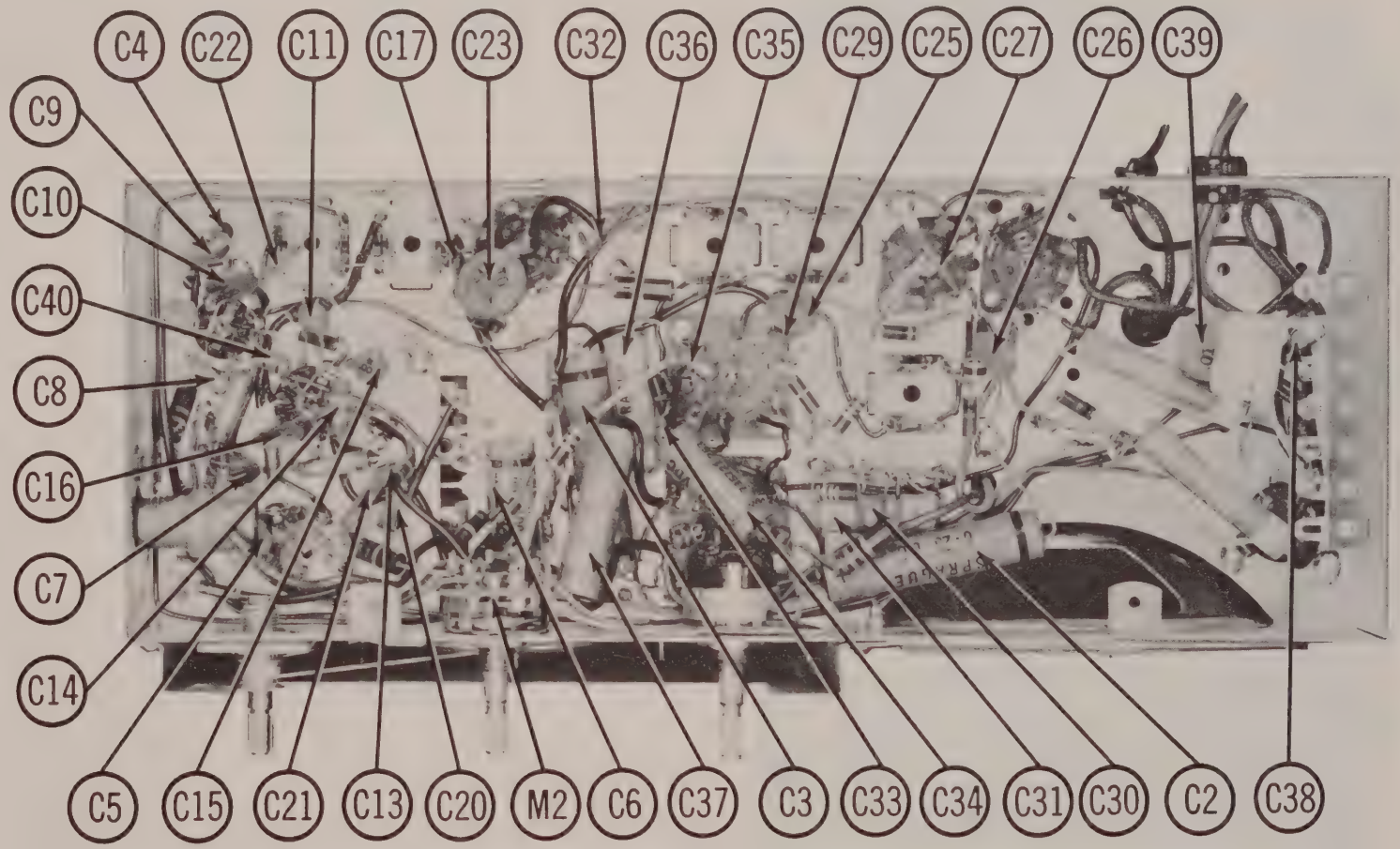
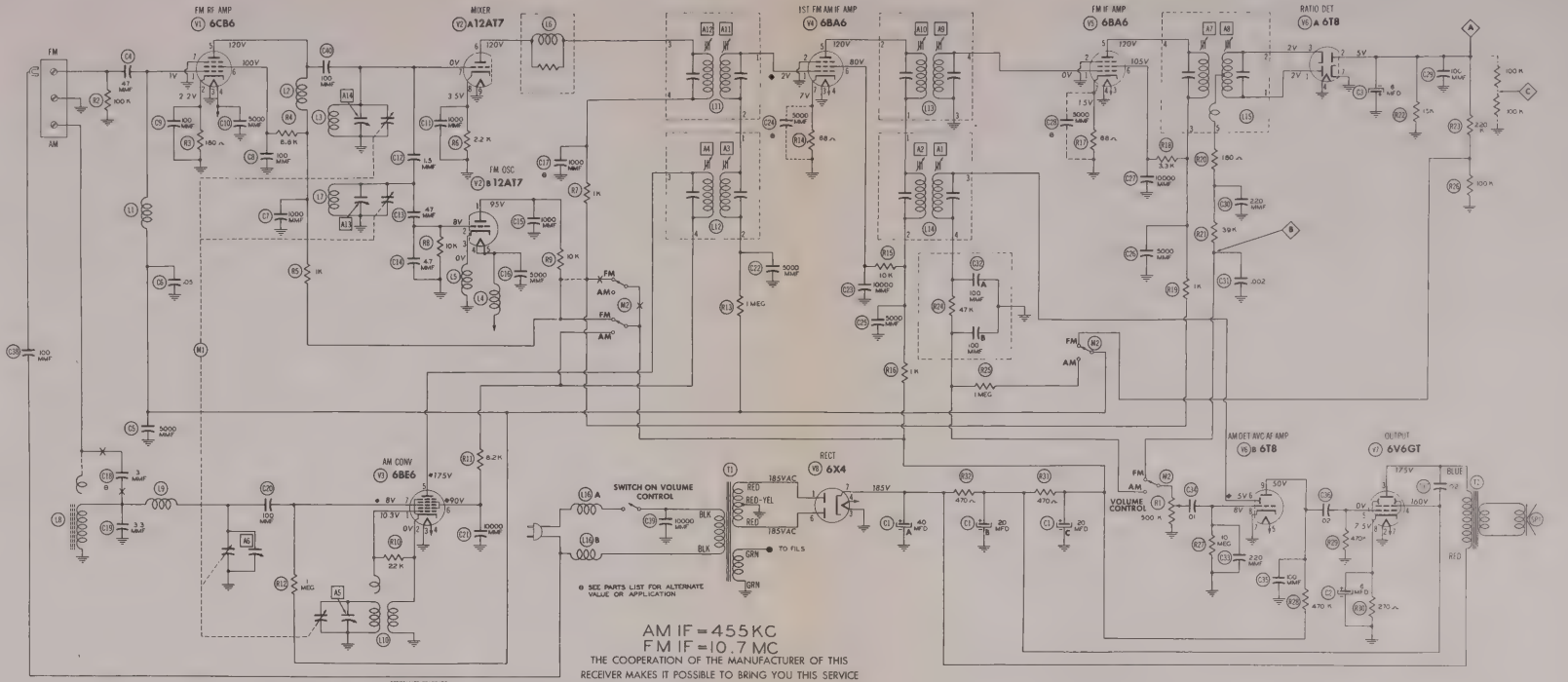


CHASSIS BOTTOM VIEW-CAPACITOR IDENTIFICATION



RESISTANCE READINGS

Item	Tube	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 8	Pin 9
V 1	6CB6	100KΩ	1800Ω	0Ω	1Ω	12KΩ	+8.7KΩ	0Ω		
V 2	12AT7	110.8KΩ	20KΩ	1Ω	.1Ω	.1Ω	12KΩ	.2Ω	2.2KΩ	0Ω
V 3	6BE6	+22KΩ	+ 8Ω	0Ω	1Ω	+12KΩ	+9KΩ	+2.5Meg		
V 4	6BA6	+2.5Meg	1Meg	0Ω	0Ω	1Ω	12KΩ	12KΩ	68Ω	
V 5	6BA6	1Ω	0Ω	1Ω	0Ω	0Ω	12KΩ	9KΩ	68Ω	
V 6	6T8	500KΩ	18KΩ	500KΩ	0Ω	1Ω	+ 500KΩ	0Ω	10Meg	1480KΩ
V 7	6V6GT	INF	0Ω	1350Ω	1470Ω	470KΩ	INF	1Ω	270Ω	
V 8	6X4	134Ω	INF	0Ω	1Ω	INF	140Ω	46KΩ		

ALL READINGS TAKEN IN "FM" POSITION UNLESS NOTED
+ TAKEN IN "AM" POSITION
† MEASURED FROM PIN 7 OF V8

1. DC voltage measurements taken with vacuum tube voltmeter, AC voltages measured at 1000 ohms per volt.
2. Socket connections are shown as bottom views
3. Measured values are from socket pin to common negative.
4. Line voltage maintained at 117 volts for voltage readings
5. Nominal tolerance on component values makes possible a variation of ± 10% in voltage and resistance readings
6. Volume control at maximum, no signal applied for voltage measurements

A PHOTOFACT STANDARD NOTATION SCHEMATIC
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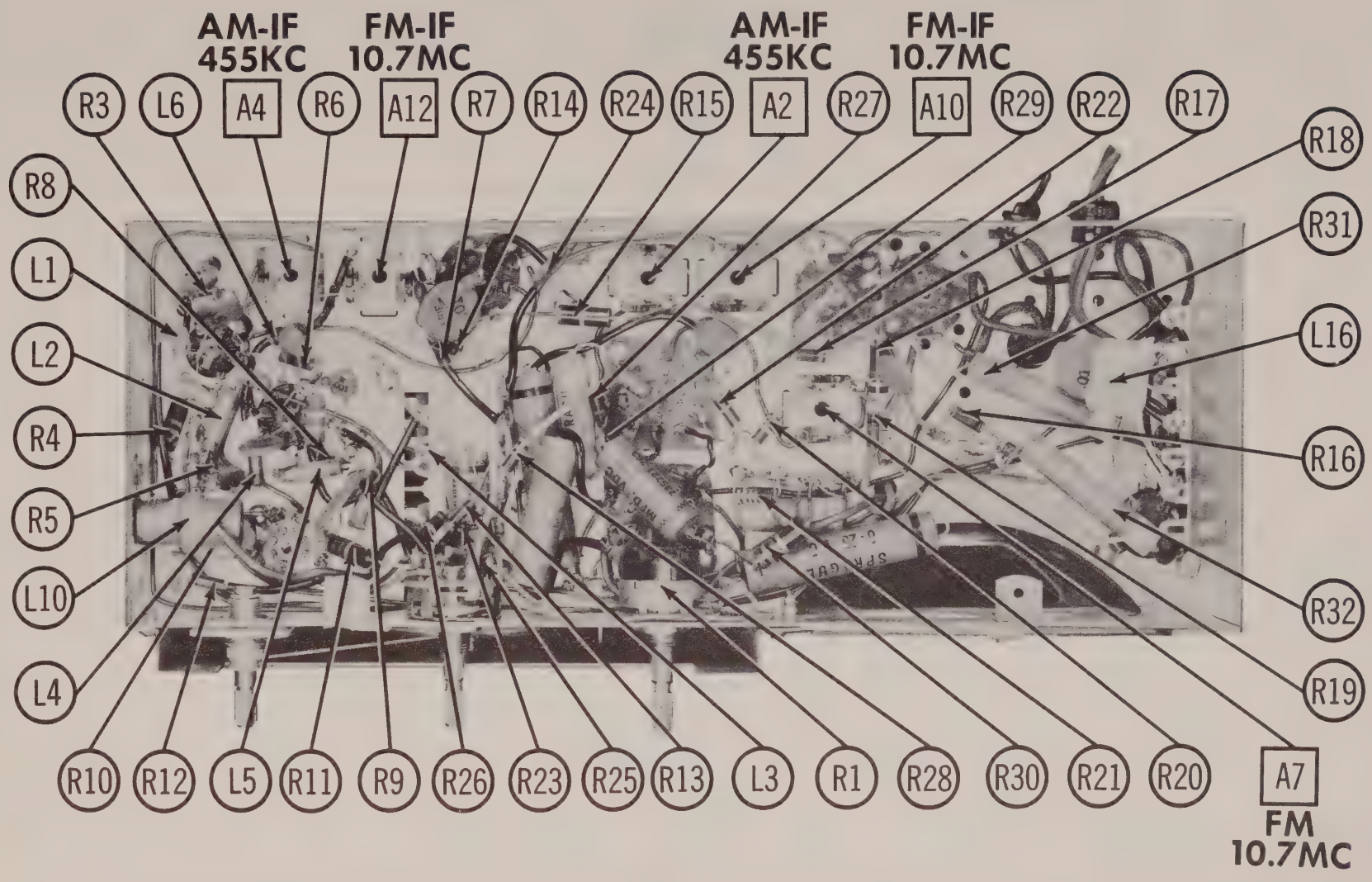
262-13



CHASSIS BOTTOM VIEW-RESISTOR IDENTIFICATION

SILVERTONE
MODEL 4200 (Ch. 757.140)

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

ALIGNMENT INSTRUCTIONS

ALIGNMENT INSTRUCTIONS—READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

To set pointer, turn tuning capacitor fully closed and set pointer parallel with base of dial.

AM ALIGNMENT

Volume control should be at maximum position. Output of signal generator should be no higher than necessary to obtain an output reading. Use an insulated alignment screwdriver for adjusting.
Loop should be maintained in same relative position to chassis as when receiver in cabinet.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	OUTPUT METER	ADJUST	REMARKS
1	.05MFD	High side to pin 7 (grid) of 6BE6 (V3). Low side to chassis.	455KC (400~ Mod.)	AM	Tuning gang fully open.	Across voice coil.	A1, A2 A3, A4	Adjust for maximum output.
2	"	Loop	1640KC	"	"	"	A5	Fashion loop of several turns of wire and radiate signal into loop of receiver. Adjust for maximum output.
3	"	"	1400KC	"	Tune to 1400KC signal.	"	A6	"
4	"	"	600KC	"	Tune to 600KC signal.	"		Check for maximum output near 600KC on dial. If necessary, bend slotted antenna rotor plates. Repeat steps 2 and 3.

FM IF ALIGNMENT USING AM SIGNAL GENERATOR AND VTVM

Connect two matched 100KΩ (±1%) resistors in series from point (A) to B-. The junction of these two resistors is alignment point (C) as shown on the schematic.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
5	.05MFD	High side to pin 1 (grid) of 6BA6 (V5). Low side to chassis.	10.7MC (Unmod.)	FM Maximum clockwise position.	Tuning gang fully open.	DC probe to point (A). Common to chassis.	A7, A8	Adjust for maximum deflection.
6	"	High side to pin 7 (grid) of 12AT7 (V2). Low side to chassis.	"	"	"	"	A9, A10 A11, A12	"
7	"	"	"	"	"	DC probe to point (B). Common to point (C).	A8	Adjust for zero reading. A positive and negative reading will be obtained on either side of the correct setting.

FM IF ALIGNMENT USING FM SIGNAL GENERATOR AND OSCILLOSCOPE

Use frequency modulated signal with 60~ modulation and 450KC sweep. Use 120~ sawtooth voltage in scope for horizontal deflection.

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT SCOPE	ADJUST	REMARKS
5	.05MFD	High side to pin 7 (grid) of 12AT7 (V3). Low side to chassis.	10.7MC (450KC Swp)	FM	Tuning gang fully open.	Vert. amp. to point (A). Low side to chassis.	A7, A9 A10, A11 A12	Disconnect stabilizer capacitor (C2). Adjust for curve of maximum amplitude and symmetry as in Fig. 1.
6	"	"	"	"	"	Vert. amp. to point (B). Low side to chassis.	A8	Reconnect capacitor (C2). Adjust so that 10.7MC occurs at center of crossover lines as in Fig. 2. Slightly retouch A7 for maximum amplitude and straightness of crossover lines.

FM RF ALIGNMENT

	DUMMY ANTENNA	SIGNAL GENERATOR COUPLING	SIGNAL GENERATOR FREQUENCY	BAND SWITCH POS.	RADIO DIAL SETTING	CONNECT VTVM	ADJUST	REMARKS
7.	Two 150Ω Carbon Resistors	High side thru 150Ω to FM ant. terminal. Low side thru 150Ω to chassis.	108.5MC	FM	Tuning gang fully open	DC probe to point (A). Common to chassis.	A13	Adjust for maximum deflection.
8.	"	"	87.5MC	"	Tuning gang fully closed	"	L7	If necessary compress or expand L7 for maximum deflection. Repeat step 7.
9.	"	"	105MC	"	Tune to 105MC signal	"	A14	Adjust for maximum deflection.
10.	"	"	91MC	"	Tune to 91MC signal	"	L3	If necessary compress or expand L3 for maximum deflection. Repeat steps 9 & 10.

FIG. 1

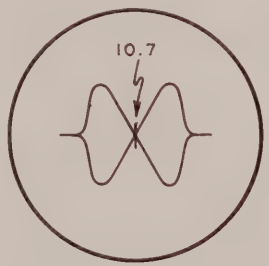


FIG. 2

PARTS LIST AND DESCRIPTIONS (Continued)

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		Silvertone PART No.	STANDARD REPLACEMENT		
V1	FM RF Amplifier	6CB6	6CB6	7CM	
V2	FM Mixer & Osc.	12AT7	12AT7	9A	
V3	AM Converter	6BE6	6BE6	7CH	
V4	1st. FM IF Amp.-AM IF Amp.	6BA6	6BA6	7BK	
V5	FM IF Amp.	6BA6	6BA6	7BK	
V6	Ratio Det.-AM Det.-AVC-AF Amp.	6T8	6T8	9E	
V7	Output	6V6GT	6V6GT	7S	
V8	Rectifier	6X4	6X4	5BS	

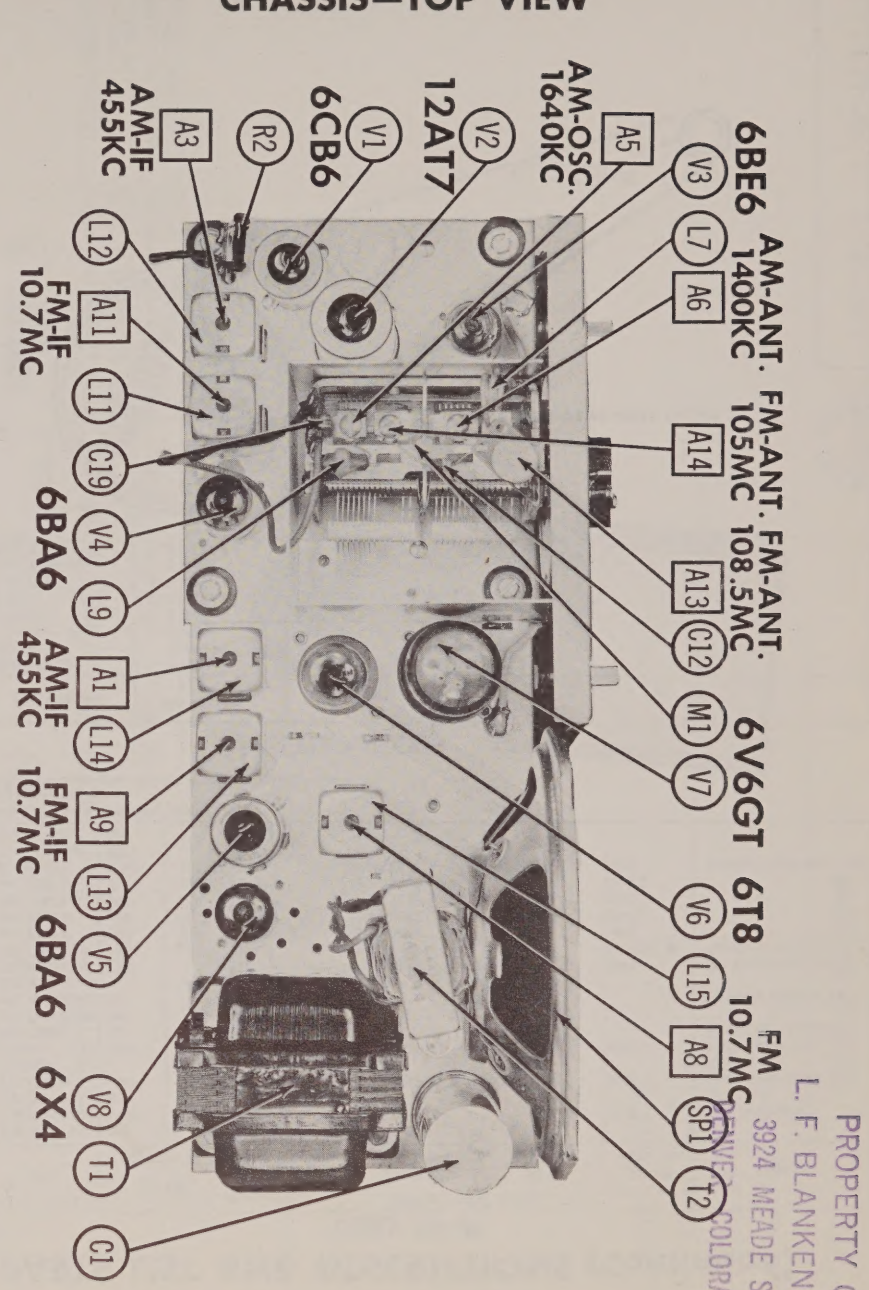
CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	Silvertone PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	■40	250	E327	AFH3-20		C016		FP321	TVL-3540	
B	20	250								
C	▲20	250								
C2	6	25	E329	SRE150/5		BBR5-50T		TC30	TVA-1203	
C3	6	25	E329	SRE150/5		BBR5-50T		TC30	TVA-1203	
C4	47		E334	SI47	D6-470	TP29	GP1K-470	UC-5447	5GA-Q47	
C5	5000		E3310	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C6	.05	400	E306	P488-05	DF-503	CUB4S5		PT415	4TM-S5	
C7	1000		E335	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C8	100		E331	SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	
C9	100		E331	SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	
C10	5000		E3310	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C11	1000		E335	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C12	1.5		E3311	SI1.5NP0	TCZ-1.5	TZ04	NP0A-1R5	ZT-5515	5TCCB-V15	
C13	47		E334	SI47	D6-470	TP29	GP1K-470	UC-5447	5GA-Q47	
C14	4.7		E339							
C15	1000		E335	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	
C16	5000		E3310	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C17	1000		E335	BPD-001	DD-102	K069	801-001	DC-521	5HK-D1	Note 1
C18	3			SI3.3NP0	TCZ-3.3	TZ06	NP0A-3R3	ZT-5533	5TCCB-V33	Note 2
C19	3.3		E3312	SI3.3NP0	TCZ-3.3	TZ06	NP0A-3R3	ZT-5533	5TCCB-V33	
C20	100		E331	SI100	D6-101	TP34	GP1K-101	UC-541	5GA-T1	
C21	10000		E336	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C22	5000		E3310	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C23	10000		E336	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C24	5000		E3310	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	Note 2
C25	5000		E3310	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C26	5000		E3310	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	
C27	10000		E336	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C28	5000		E3310	BPD-005	DD-502	K080	811-005	DC-525	5HK-D5	Note 2
C29	100		E331	SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	
C30	220		E337	BPD-221	D6-221	G051	811-221	UC-5322	5GA-T22	
C31	.002	400	E3015	P688-002	D6-202	CUB6D2	GP2-333-202	PT622	6TM-D2	
C32A	100		♦E3016	♦PA-97-1	♦PC-50	♦111TM1	♦ 1403-01	UC-531	♦D-1	
B	100							UC-531		
C33	220		E337	BPD-221	D6-221	G051	811-221	UC-5322	5GA-T22	
C34	.01	600	E301	P688-01	D6-103	CUB6S1	GP2-333-103	PT611	6TM-S1	
C35	100		E331	SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	
C36	.02	600	E3014	P688-02	DF-203	CUB6S2	817-02	PT612	6TM-S2	
C37	.02	600	E3014	P688-02	DF-203	CUB6S2	817-02	PT612	6TM-S2	
C38	100		E331	SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	
C39	10000		E336	BPD-01	DD-103	K082	811-01	DC-511	5HK-S1	
C40	100		E331	SI100	D6-101	TP34	GP1K-101	UC-531	5GA-T1	

Note 1. Some versions use 5000MMF in this application (part #E-3310)
Note 2. Not used in all versions.
♦ Items C32A, C32R, R24 are combined in one unit.

CHASSIS—TOP VIEW



PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

PARTS LIST AND DESCRIPTIONS (Continued)

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	Silvertone PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1A	500KΩ	½	E254	Q13-133	A47-500K-Z	BSK-60-S	U-48	Volume
B	Shaft		Not Req.	Not Req.	KSS-3	Not Req.	Not Req.	Attach to R1A
C	Switch		Not Req.	76-1	SWE-12	Not Req.	US-26	Attach to R1A

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	Silvertone PART No.	IRC PART No.	
R2	100KΩ	½		BTS-100K	
R3	180Ω	½		BTS-180	
R4	6800Ω	1		BTA-6800	
R5	1000Ω	½		BTS-1000	
R6	2200Ω	½		BTS-2200	
R7	1000Ω	½		BTS-1000	
R8	10KΩ	½		BTS-10K	
R9	10KΩ	½		BTS-10K	
R10	22KΩ	½		BTS-22K	
R11	8200Ω	1		BTA-8200	
R12	1Meg	½		BTS-1Meg	
R13	1Meg	½		BTS-1Meg	
R14	68Ω	½		BTS-68	
R15	10KΩ	1		BTA-10K	
R16	1000Ω	½		BTS-1000	
R17	68Ω	½		BTS-68	
R18	3300Ω	1		BTA-3300	
R19	1000Ω	½		BTS-1000	
R20	180Ω	½		BTS-180	
R21	39KΩ	½		BTS-39K	
R22	15KΩ	½		BTS-15K	
R23	220KΩ	½		BTS-220K	
R24	47KΩ	½	♦E-3016	BTS-47K	
R25	1Meg	½		BTS-1Meg	
R26	100KΩ	½		BTS-100K	
R27	10Meg	½		BTS-10Meg	
R28	470KΩ	½		BTS-470K	
R29	470KΩ	½		BTS-470K	
R30	270Ω	1		BTA-270	
R31	470Ω	2		BTB-470	
R32	470Ω	2		BTB-470	

♦ Items R24, C32A, C32B, C32B are combined in one unit.

TRANSFORMER (POWER)

ITEM No.	RATING				REPLACEMENT DATA					
	PRI.	SEC. 1	SEC. 2	SEC. 3	Silvertone PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.
T1	117VAC @ .21A	390VCT .074ADC	6.3VAC @ 3A		E114					

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	Silvertone PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	
T2	4.9KΩ	3.4Ω	Part of Spkr.	A-3877	A-2930	S-3X	Z1107	24S51	

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	Silvertone PART No.	JENSEN PART No.	QUAM PART No.	
SP1	5 1/4"	PM	3.4Ω	E108	ST-803 Mod. P525-V	52A1	

PARTS LIST AND DESCRIPTIONS (Continued)

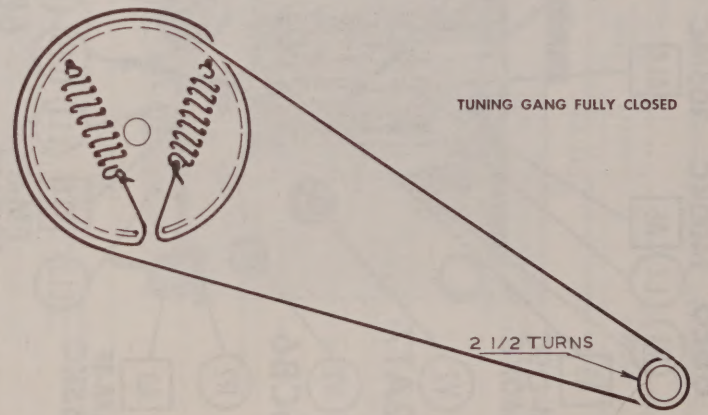
COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA				NOTES
		PRI.	SEC.	Silvertone PART No.	MEISSNER PART No.	MERIT PART No.	MILLER PART No.	
L1	FM RF Choke	0Ω		E6112				
L2	FM RF Choke	.8Ω		E6114	19-1004		4610	7 Microhenries
L3	FM RF Coil	0Ω		E6113				
L4	Fil. Choke	.5Ω		E6118	19-1005		4612	10 Microhenries
L5	Cathode Choke	.8Ω		E6114	19-1004		4610	7 Microhenries Wound on resistor
L6	RF Choke	0Ω		E6118				
L7	FM Osc. Coil	0Ω		E6113				
L8	AM Ant. Coil	1Ω		E606				Includes cabinet back
L9	AM Ant. Coupling Coil	.5Ω		E6119	19-3100	TV-151	6177	100 Microhenries
L10	AM Osc. Coil	.5Ω	5.5Ω	E6115	14-1074 *		69-Osc. ■	Tertiary winding
L11	1st. FM IF	.5Ω	.6Ω	E627189	16-3487	FM-254	1463	
L12	1st. AM IF	15Ω	15Ω	E6256	16-6758	BC-352	12-C1	
L13	2nd. FM IF	.6Ω	.7Ω	E6296	16-3487	FM-254	1463	
L14	2nd. AM IF	10Ω	10Ω	E62419	16-6758	BC-353	12-C2	
L15	Ratio Det.	1.5Ω	.8Ω CT	E6283	17-3487 ▲	FM-255	1465	Tertiary winding -.4Ω
L16A	Line Choke	0Ω		E6116				
B	Line Choke	0Ω		E6116				

* Leads sufficient mounting support.
■ Drill mounting hole.
▲ Enlarge chassis hole and drill new mounting holes.

MISCELLANEOUS

ITEM No.	PART NAME	Silvertone PART No.	NOTES
M1	Tuning Cap.	E358	11-325MMF, 23-197MMF
M2	Switch	E125	AM-FM
A13	Trimmer Cap.	E359	FM Osc. (5-25MMF)
	Cabinet	E7018	
	Knob	E5019	On/off/volume, tuning & bandswitch
	Dial Pan	E4041	
	Dial Window	E7115	
	Dial Knob	E5019	

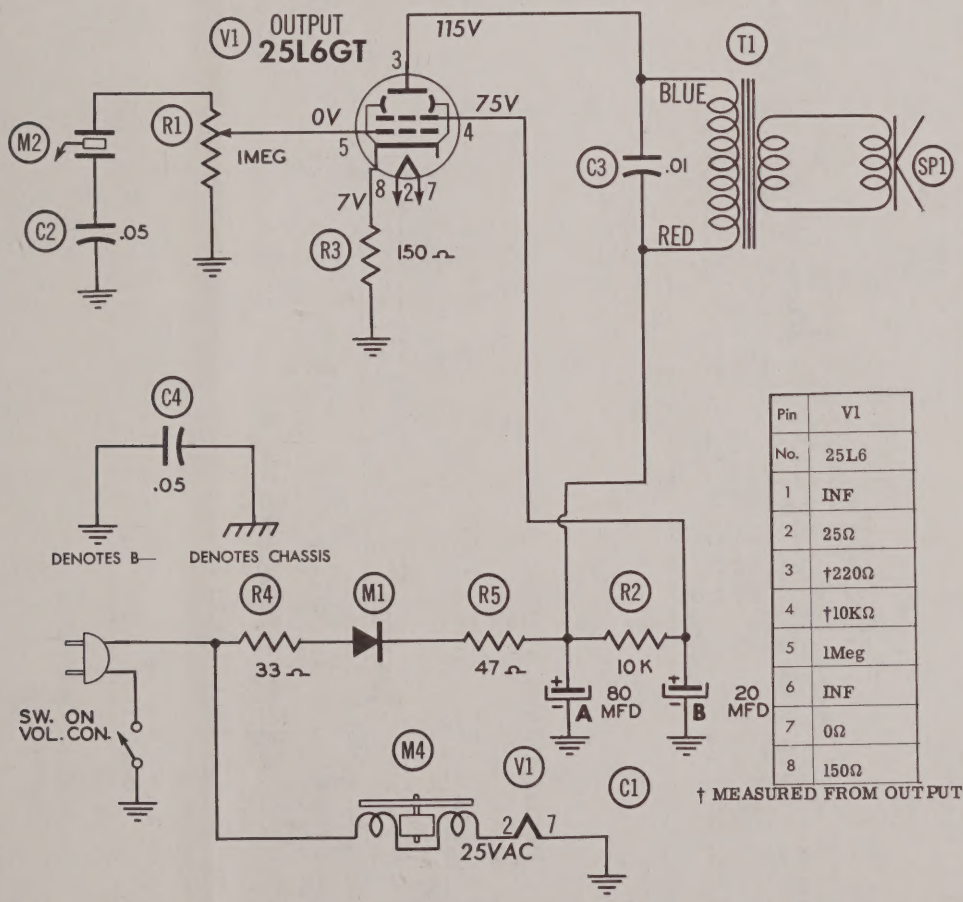


DIAL CORD STRINGING

PROPERTY OF
L. F. BLANKENSHIP
3924 MEADE ST.
DENVER, COLORADO

TRAVLER
MODEL 7053

TRADE NAME	Travler Model 7053
MANUFACTURER	Travler Radio & Tel. Corp., 571 W. Jackson Blvd., Chicago, Ill.
TYPE SET	AC Operated Phono Amplifier With 3 Speed Manual Record Player
TUBES (One)	Type 25L6GT Audio Amplifier
POWER SUPPLY	110-120 Volts AC-60 Cycles RATING .32 Amp. @ 117 Volts AC



Pin No.	V1 25L6
1	INF
2	25Ω
3	†220Ω
4	†10KΩ
5	1Meg
6	INF
7	0Ω
8	150Ω

† MEASURED FROM OUTPUT OF M1

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HOWARD W. SAMS & CO., INC. • Indianapolis 5, Indiana

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PARTS LIST AND DESCRIPTIONS

TUBES (SYLVANIA, GENERAL ELECTRIC, WESTINGHOUSE)

ITEM No.	USE	REPLACEMENT DATA		RETMA BASE TYPE	NOTES
		TRAVLER PART No.	STANDARD REPLACEMENT		
V1	AF Amplifier	25L6GT	25L6GT	7S	

CAPACITORS

Capacity values given in the rating column are in mfd. for Electrolytic and Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	TRAVLER PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL-DUBILIER PART No.	ERIE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C1A	80	150	EC-26	PRS150/80-40		BBRT44215		3N532	TVA-2460	Red
B	20	150								Yellow
C2	.05	400	PC-5	P488-05	DF-503	CUB4S5		PT415	4TM-S5	
C3	.01	400	PC-5	P488-01	DF-104	CUB4S1	GP2-333-103	PT411	4TM-S1	
C4	.05	400	PC-5	P488-05	DF-503	CUB4S5		PT415	4TM-S5	

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA					INSTALLATION NOTES
	RESISTANCE	WATTS	TRAVLER PART No.	IRC PART No.	CLAROSTAT PART No.	CENTRALAB PART No.	MALLORY PART No.	
R1A	1Meg	½	VC-9	Q13-137	AG-63-Z	BSK-70-S	U-53	Volume
B	Shaft		Not Req.	Not Req.	KSS-3	Not Req.	Not Req.	Attach to R1A
C	Switch		Not Req.	76-1	SWB	Not Req.	US-26	Attach to R1A

RESISTORS

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	TRAVLER PART No.	IRC PART No.	
R2	10KΩ	½	1R-37	BTS-10K	
R3	150Ω	½	1R-14	BTS-150	

ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	TRAVLER PART No.	IRC PART No.	
R4	33Ω	½	1R-17		
R5	47Ω	1	1R-41		

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE		REPLACEMENT DATA						NOTES
	PRI.	SEC.	TRAVLER PART No.	Stancor PART No.	Merit PART No.	Triad PART No.	Halldorson PART No.	Thordarson PART No.	
T1	2.5KΩ	3.4Ω	Part of Spkr. SPK-22A	A-3332	A-3025	S-1X ①	Z1101	TS-24S50 ①	① Drill one new mounting hole.

SPEAKER

ITEM No.	RATINGS			REPLACEMENT DATA			NOTES
	SIZE	FIELD	V. C. IMP.	TRAVLER PART No.	JENSEN PART No.	QUAM PART No.	
SP1	4"	PM	3.4Ω	SPK-22A	ST-113 Mod. P4-X	4A07	

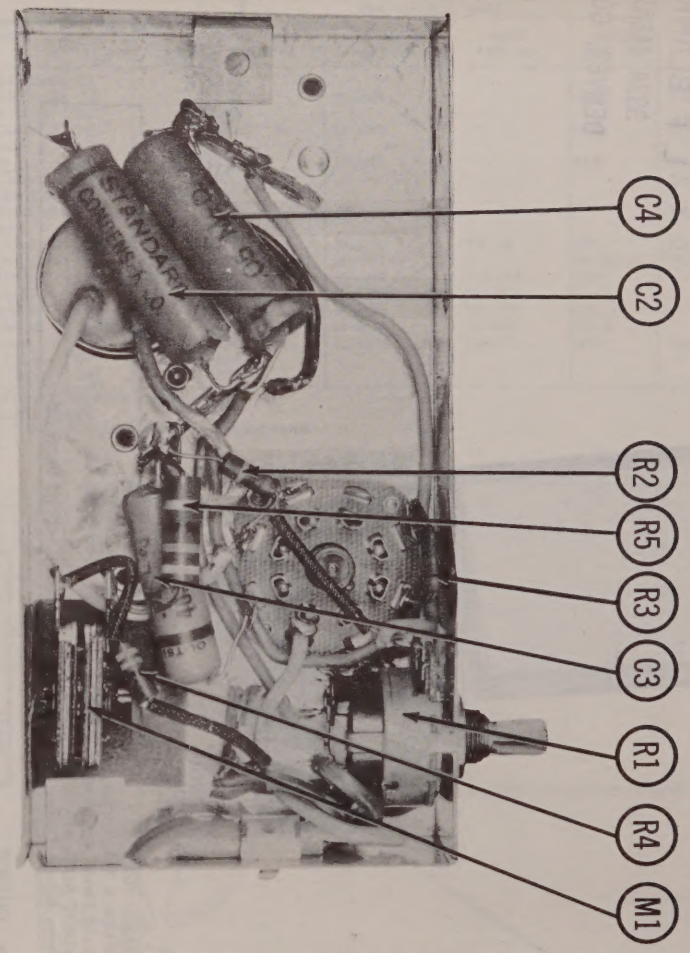
SELENIUM RECTIFIER

ITEM No.	RATING	REPLACEMENT DATA						NOTES
	CURRENT	TRAVLER PART No.	FEDERAL PART No.	INTERNATIONAL PART No.	MALLORY PART No.	SARKES TARZIAN PART No.	SELETRON PART No.	
M1	.050ADC	SR-3	1002A	RS65	6S65	65	8J1	

PHONO CARTRIDGE

ITEM No.	REPLACEMENT DATA						REMARKS
	TRAVLER PART No.	ASTATIC PART No.		SHURE PART No.		ELECTRO-VOICE PART No.		
		CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	CARTRIDGE	NEEDLE	
M2		16L3 *P Series	Optional			H60 *2400	Optional	*Tone Arm

CHASSIS—BOTTOM VIEW



PHONO NEEDLE

(FOR REPLACEMENT IN ORIGINAL EQUIPMENT CARTRIDGE)

ITEM No.	REPLACEMENT DATA				REMARKS
	TRAVLER PART No.	JENSEN PART No.	PERMO PART No.	WALCO PART No.	
M3		* J-152 (or) *J-752	†B-450 (or) ♦B-450D	† WS400-2 (or) *WA400-2 (or) ♦W400AGD	* Metal † Jewel ♦ Diamond

MISCELLANEOUS

ITEM No.	PART NAME	TRAVLER PART No.	NOTES
M4	Motor	M-10	